

**YUKON
ENERGY**



YUKON ENERGY CORPORATION

**MINTO MINE PPA APPLICATION
INTERROGATORY RESPONSES**

March 8, 2007

**YUKON ENERGY CORPORATION
MINTO MINE PPA APPLICATION**

**P.W. PERCIVAL
(PWP)**

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What are the normal line losses (%) for a 34.5 kV distribution power line?

6

7 **ANSWER:**

8

9 In Yukon, 34.5 kV lines (and 25 kV) are utilized more for transmission, not distribution.

10

11 There is no normal value for line losses for any line of a particular voltage. Losses are

12 subject to many variables, including conductor size, line loading, temperature and

13 length.

14

15 Lines of different voltages and construction will have different capital costs and different

16 levels of losses for service to a given load or system. Voltages are selected for any

17 particular project based on achieving a minimum consolidated cost for both constructing

18 and operating the line.

19

20 Also see exhibit B-21 from the 2006 Resource Plan hearings in regards to YEC's

21 transmission line losses.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What are the normal line losses (%) for a 138 kV transmission power line?

6

7 **ANSWER:**

8

9 Please see PWP-YEC-1-1.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What % of YEC's current transmission lines are at 34.5 kV?

6

7 **ANSWER:**

8

9 Yukon Energy has almost no 34.5 kV transmission (lower voltage transmission on YEC's
10 system is primarily 25 kV comprising the Haines Junction line and the Ross River line).

11 Most of the 34.5 kV lines in Yukon are owned by YECL.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Provide information from other adjacent jurisdictions' electric utilities that would
6 support YEC' classification of a 34.5 kV power line as a transmission line rather
7 than a distribution line.

8

9 **ANSWER:**

10

11 Transmission versus distribution is a definition of function, not voltage. Please see
12 PWP-YEC-1-6.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What % of other adjacent jurisdictions' electric utilities' transmission (not
6 distribution) systems are 34.5 kV verses other higher voltages?

7

8 **ANSWER:**

9

10 In terms of northern jurisdictions, NTPC has 34.5 kV transmission on the Taltson system
11 for service to Fort Resolution; however, the bulk of their transmission is 115 kV. YEC
12 does not have percentages available for NTPC.

13

14 In Nunavut, there is no transmission.

15

16 YEC does not have statistics on transmission in Alaska.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. At what line lengths and at what electrical base loads do other jurisdictions'

6 utilities on average normally switch from distribution at 34.5 kV to transmission at

7 69 or 138 kV?

8

9 **ANSWER:**

10

11 The question is not clear. Transmission and distribution serve two different functions

12 that are not substitutes. Distribution relates to lower voltage systems that typically feed

13 many customers in a given area. Transmission is typically higher voltage (in Yukon 25

14 kV or greater) related to moving power between generation and load centres.

15

16 The factors related to choice of voltage, or the decision to undertake a voltage

17 conversion of a system, are discussed in PWP-YEC-1-1.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Will the Mine Spur line follow the mine access road corridor fairly closely or will it
6 follow a more direct route cross country? What is (or are) the anticipated
7 length(s) of the Spur Line route(s) from the Minto Landing substation to the point
8 of delivery at the Mine?

9

10 **ANSWER:**

11

12 The selected route for the 35 kV MS transmission line as described in Schedule A to the
13 PPA generally follows the mine access road corridor rather than a more direct route
14 cross country. The preferred route is approximately 27 km in length and will start at the
15 Minto Landing substation, follow close to the access road through the community of
16 Minto Landing to the existing barge landing site, cross the Yukon River close to, or
17 slightly south of, the barge landing site, and then generally follow the mine access road
18 from the southern shore of the Yukon River, to the mine site.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What is the current preliminary design length of the main 138kV transmission line
6 from the Carmacks substation to the Minto Landing substation?

7

8 **ANSWER:**

9

10 The current preliminary design length of the main 138kV transmission line from the
11 Carmacks substation to the Minto Landing substation, as described in Schedule B to the
12 PPA, is 69 km.

1 **REFERENCE:**

2 **QUESTION:**

3

4

5 1. Please provide, in a table format, the detailed preliminary cost estimates to
6 construct the Mine Spur 34.5 kV distribution power line. The table to show the
7 costs and quantities for each of: the major materials components (poles/support
8 structures, conductors/cables, cross arms, insulators, anchors, transformers,
9 other supplies, etc); freight costs; the costs and quantities (hours) for each piece
10 of equipment to be employed; all labour cost components; mobilization costs;
11 camp costs; and, the costs for each of the following: planning, design,
12 engineering, surveying, construction supervision, quality control inspection,
13 environmental monitoring, etc and administrative overheads; plus details of any
14 and all other costs which may be significant.

15 **ANSWER:**

16 Detailed preliminary engineering and related cost estimates have not yet been prepared
17 (this work is targeted to be done by the engineering consultant currently being selected
18 as part of the initial work to be completed in May 2007).

19 The estimated in-service cost for the Mine Spur of \$3.83 million in Section 5.1 of the
20 PPA was developed as follows:

21

22 **a) 2005\$ cost estimate**

a. Line cost at \$85 k per km (27 km)	\$2.295 million
b. Added cost for Yukon River crossing ¹	0.315
c. Allowance for substation costs	<u>0.500</u>
d. Subtotal	3.110 million
e. 10% allowance for permitting/design	<u>0.311</u>
f. Total cost estimate (2005\$)	3.421 million

¹ Allow added cost of \$900 per metre for 350 metres.

1

2 **b) In-service cost (2008\$)**

3 a. Assume 3rd Quarter 2008 in-service
4 Allow approx. 12% for inflation and IDC
5 In-service cost estimate

0.410

\$3.831 million

1 **REFERENCE:**

2 **QUESTION:**

3 1. Please provide, in a table format, the detailed preliminary cost estimates as per
4 9) above to construct the main 138 kV transmission power line from Carmacks to
5 the Minto Landing Mine Spur substation.

6 **ANSWER:**

7 Detailed preliminary engineering and related cost estimates have not yet been prepared
8 (this work is targeted to be done by the engineering consultant currently being selected
9 as part of the initial work to be completed in May 2007).

10 Estimated mid-point costs in 2005\$ per Schedule 1 to the Application assume \$160,000
11 construction/supervision cost per km, i.e., this cost (2005\$) for the 69 km segment from
12 Carmacks to Minto Landing equal \$11.04 million excluding any consideration of inflation,
13 IDC, planning, permitting, design or related substation costs at Carmacks. Escalation of
14 the cost to in-service quarter 3 of 2008 would equal approximately \$12.4 million.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What steps and safe guards does YEC plan to institute so as to ensure that the
6 costs associated with the: planning, design, engineering, surveying, construction
7 supervision, quality control inspection, environmental monitoring, etc and
8 administrative overheads are properly allocated to each of the two projects, the
9 Mine Spur line and the Main Transmission line?

10

11 **ANSWER:**

12

13 The predominant approach to cost allocation will be direct allocation. Where costs are
14 common and therefore not specifically assignable to one portion of the line versus
15 another, costs will be allocated using a pro rata calculation with an appropriate base
16 (e.g. line length, % of cost, etc).

1 **REFERENCE:**

2 **QUESTION:**

3

4

5 1. Please provide further background information on the rationale (what is the
6 practice of most other electric utilities when establishing and collecting customer
7 contributions) and the detailed calculations that support how the \$7.2 M customer
8 contribution was determined.

9

10 **ANSWER:**

11

12 Please see YUB-YEC-1-7 for review of how the total Capital Cost Contribution was
13 determined, including the \$7.2 million for the CS Project.

14

15 The specific number was derived as follows:

16

17 • Carmacks to Minto Landing line length at 69 km (see response to PWP-YEC-1-
18 8).

19 • Assumed cost (2005\$) of 35 kV line per km at \$85k (see response to PWP-YEC-
20 1-9).

21 – Resulting (2005\$) cost at \$5.865 million for line construction/supervision.

22 – Add 10% for permitting/design - total cost (2005\$) at \$6.45 million.

23 • In-service Quarter 3 2008 cost (allow 12 % for inflation and IDC per PWP-YEC-8
24 and 9) – total cost (2008\$) at \$7.2 million.

1 **REFERENCE:** On page 17 of the Application the last paragraph of Section 5.1.5

2

3 **QUESTION:**

4

5 1. On page 17 of the application the last paragraph of section 5.1.5

6 Decommissioning Costs states "..., Minto will pay to YEC any excess costs

7 above the Accrued Decommissioning Fund (and YEC will repay to Minto any

8 excess in the Fund that is not required)." As Minto, its parent and any

9 subsidiaries may in fact be non existent by the time the Spur is finally

10 decommissioned, what assurances does YEC have that excess costs can be

11 recovered other than to ensure that the Fund is in fact over funded?

12

13 **ANSWER:**

14

15 The following considerations are noted to support YEC's expectation that there will be no

16 need to seek recovery of any excess costs at the time when actual decommissioning

17 occurs:

18

19 • The PPA sets out procedures and obligations on Minto to ensure that an

20 adequate Accrued Decommissioning Fund will be established based on a

21 Decommissioning Cost Payment by Minto during its operating period and prior to

22 the discharge of the YEC Security.

23 • Further, the Fund will accrue value in excess of the estimated amount if the Mine

24 Shut Down Date is (as expected) more than three years after the

25 Decommissioning Cost Payment is provided by Minto.

26 • Finally, YEC anticipates that the Minto Landing substation and most of the Mine

27 Spur to the east of the Yukon River will be retained for long-term local community

28 use and thus no decommissioning costs will be incurred or required for this

29 portion of the Mine Spur.

30

31 It is intended that the Accrued Decommissioning Fund will cover the costs of

32 decommissioning the full Mine Spur. This fund is to be established based on the

33 following procedures and the Decommissioning Cost Payment obligation of Minto (which

34 is covered under the YEC Security):

35

36 • Estimated Decommissioning Costs are considered to be an amount equal to 25%

37 of the Capital Costs incurred by YEC for the Mine Spur.

1 • The Decommissioning Cost Payment as currently estimated (based on current
2 Mine Spur cost estimate) will total \$850,000 which is to be deposited into the
3 Accrued Decommissioning fund account and invested at 6.5% interest per
4 annum.

5 • Section 11.2(c) sets out that this amount is intended to equal the Estimated
6 Decommissioning Costs within three years after payment into the Accrued
7 Decommissioning Fund and to that end adjustments will be made to reflect the
8 amount by which the Mine Spur Revised Estimate is determined to be greater or
9 less than the current estimated Capital Cost of the Mine Spur of \$3,830,000 and
10 after determination of the Capital Costs of the Mine Spur, the amount by which
11 the actual Capital Costs for the Mine Spur are determined to be greater or less
12 than the Mine Spur Revised Estimate.

13

14 The Decommissioning Costs are covered by the YEC Security. It is anticipated that by
15 sometime in 2010 the Current Bank Financing will have been paid off and YEC will have
16 a first charge over Minto's assets. If Minto goes bankrupt the Decommissioning Costs
17 and other amounts owing may be redeemed through the security provisions pursuant to
18 section 6.5 of the PPA.

19

20 If the Mine life runs its course Part 11 of the PPA provides that Minto must provide YEC
21 with 6 months prior written notice of the Mine Shut Down Date, and after the Mine Shut
22 Down Date the Accrued Decommissioning Fund Amount will be used to pay the actual
23 Decommissioning Costs. YEC is to exercise commercially reasonable efforts to carry
24 out and complete such decommissioning as soon as reasonably feasible. Any excess
25 costs over and above that in the Accrued Decommissioning Fund will be invoiced to
26 Minto within 10 Business Days of the month in which costs are incurred. Under 11.3
27 Minto would have to pay the invoiced amount on or before the 15th Business Day after
28 the invoice is received. This establishes a tight timeline within which final costs must be
29 determined and any adjusted costs paid to YEC.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. It appears that the Mine Net Revenue Account (MNRA) is really an entirely
6 internal accounting procedure that YEC is seeking approval from the YUB to
7 establish. Nowhere under section 3.6 on page 17 of the PPA does the Minto
8 Mine have any obligations to or within the MNRA! So why pray tell is this
9 Account included in the PPA? Why should this section not be removed from the
10 PPA in keeping with the KISS principle - to keep it simple!

11

12 **ANSWER:**

13

14 The Mine Net Revenue Account is integral to the PPA as one of the agreed upon
15 measures determined as between the Parties to ensure that per page 1, provision C of
16 the PPA, "other ratepayers in the Yukon Territory will not be adversely impacted by the
17 costs of the Transmission Project required to provide Grid Electricity to the Mine."

18

19 Section 3.6 provides that Mine Net Revenue cannot become part of the ongoing revenue
20 requirement calculations applicable for setting rates for other ratepayers. Since the
21 Board has jurisdiction with regard to setting and determining the revenue requirement
22 and rate base it would have to approve an account which may materially impact how
23 rates are set for other ratepayers.

24

25 Please see response to YUB-YEC-1-15 for review of the MNRA purpose.

1 **REFERENCE: 3.6 Mine Net Revenue Account (D)**

2

3 **QUESTION:**

4

5 1. Why under **3.6 Mine Net Revenue Account** (d) would each Party provide
6 independent submissions to the YUB as to how the MNRA should be disposed of
7 for the benefit of Yukon Territory rate payers? What interest does Minto have in
8 the disposition of this Account and why?

9

10 **ANSWER:**

11

12 Minto has stipulated that it has an interest in making such presentations. During the life
13 of the Mine Net Revenue Account Minto will be a YEC ratepayer and like other
14 ratepayers will be foregoing present benefits during the life of the deferral account to
15 ensure rate stability for all Yukon ratepayers.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please reproduce the Tables B-2 through B-8 on 11" x 17" sheets so that they
6 can be more easily read and compared.

7

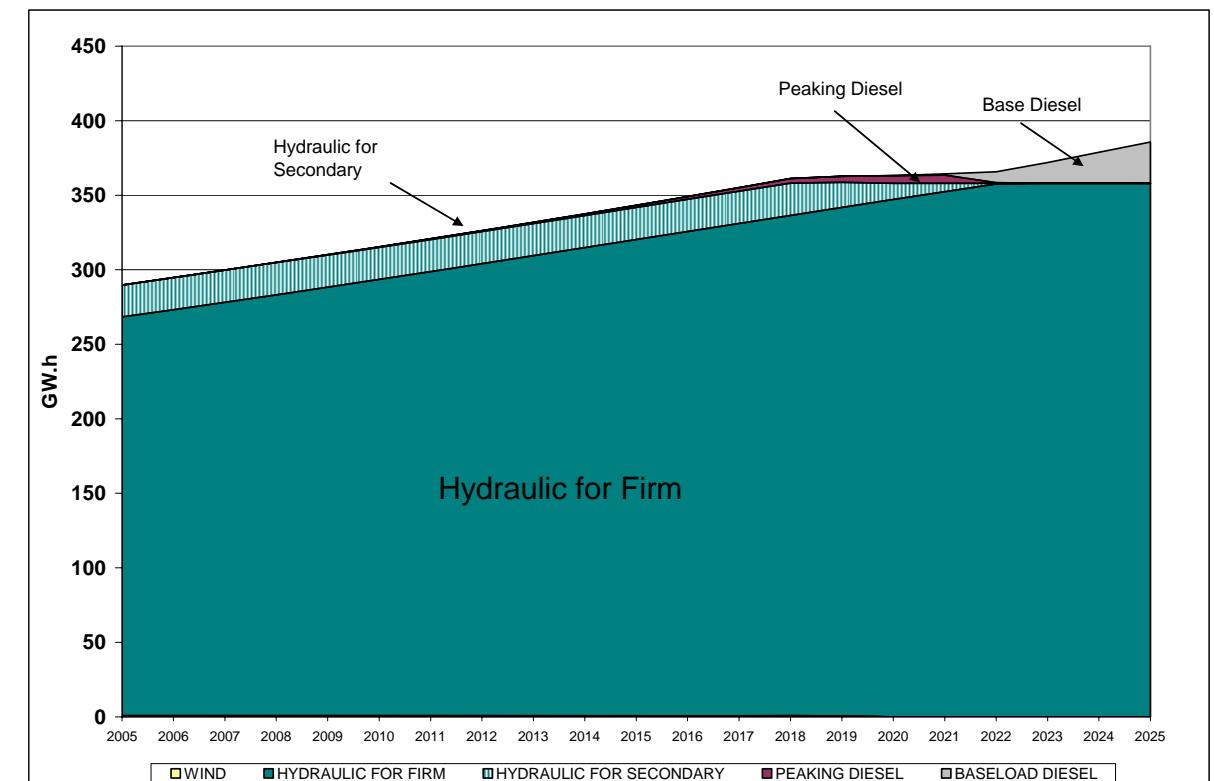
8 **ANSWER:**

9

10 Tables B-2 to B-8 are provided on 11" x 17" sheets in PWP-YEC-1-16 Attachment 1.

Table B-2
WAF System Base Case without Minto

**WAF SALES AND GENERATION
Base Case**



Key Assumptions
Industrial

Minto PELLY CC	year	Energy	Peak	loss
no				12.70%
no				12.70%
no				12.70%
no				1.85%

C - S connection
Aishihik 3rd Turbine
Load Forecast Sensitivity

Other Notes:
1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litre
MD Diesel Price per litre 2005	0.650	\$/Litre
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	

SALES (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2	
2 firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6	
3 INDUSTRIAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4 TOTAL FIRM LOAD	268.4	273.3	278.3	283.3	288.5	293.8	299.2	304.7	310.2	315.9	321.7	327.6	332.6	339.7	345.9	352.3	358.7	365.3	372.0	378.8	385.8	
5 SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
6 losses	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	310.1	315.3	320.7	326.2	331.8	337.5	343.2	349.1	355.1	361.2	362.8	363.1	364.3	365.8	372.0	378.8	385.8	
8 HYDRAULIC FOR FIRM	267.5	272.4	277.3	282.4	287.4	292.6	297.9	303.2	308.7	314.1	319.6	325.0	330.4	335.8	341.1	347.2	352.4	357.5	358.0	358.0	358.0	
9 WIND	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
10 PEAKING DIESEL	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.6	0.8	1.0	1.4	1.9	2.4	3.2	4.1	5.1	5.6	5.0	0.0	0.0	0.0	
11 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	7.3	14.0	20.8	27.8	
12 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	288.5	293.8	299.2	304.7	310.2	315.9	321.7	327.6	333.6	339.7	345.9	352.3	358.7	365.3	372.0	378.8	385.8	
13 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	
14 TOTAL GENERATION	289.7	294.8	299.8	304.9	310.1	315.3	320.7	326.2	331.8	337.5	343.2	349.1	355.1	361.2	362.8	363.1	364.3	365.8	372.0	378.8	385.8	
15 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.7	358.7	358.7	358.7	358.7	358.7	358.7	358.7	358.0	358.0	358.0	358.0	358.0	
16 Firm Load	268.4	273.3	278.3	283.3	288.5	293.8	299.2	304.7	310.2	315.9	321.7	327.6	333.6	339.7	345.9	352.3	358.7	365.3	372.0	378.8	385.8	
17 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	70.4	65.1	59.7	54.2	48.5	42.8	37.0	31.1	25.1	19.0	12.8	5.7	(0.7)	(7.3)	(14.0)	(20.8)	(27.8)	
18 FUEL COSTS	6,938	0	0	4	18	37	60	87	122	168	231	316	430	577	765	998	1,283	1,606	1,825	3,332	5,055	
19 VARIABLE O & M COSTS	639	0	0	0	2	3	5	7	10	14	20	27	37	49	66	86	110	139	174	320	485	
20 SECONDARY ENERGY SALES	(12,889)	(1,174)	(1,208)	(1,233)	(1,257)	(1,282)	(1,308)	(1,334)	(1,361)	(1,388)	(1,416)	(1,444)	(1,473)	(1,502)	(1,533)	(1,223)	(802)	(424)	(36)	0	0	
21 TOTAL	(5,311)	(1,174)	(1,208)	(1,228)	(1,238)	(1,242)	(1,243)	(1,240)	(1,229)	(1,206)	(1,165)	(1,101)	(1,007)	(876)	(702)	(140)	(591)	(1,321)	(1,963)	3,652	5,540	7,537

Table B-3
WAF System with Minto at 32.5 GW.h

WAF SALES AND GENERATION
Minto 32.5 GWh starting 2009

Key Assumptions

Industrial

Minto PELLY CC	year 2008 3Q 2009	Energy 32.5 1.5	Peak 4.4 0.2	loss 12.70% 12.70% 12.70%
C - S connection	no			
Aishihik 3rd Turbine	no			
Load Forecast Sensitivity	no			

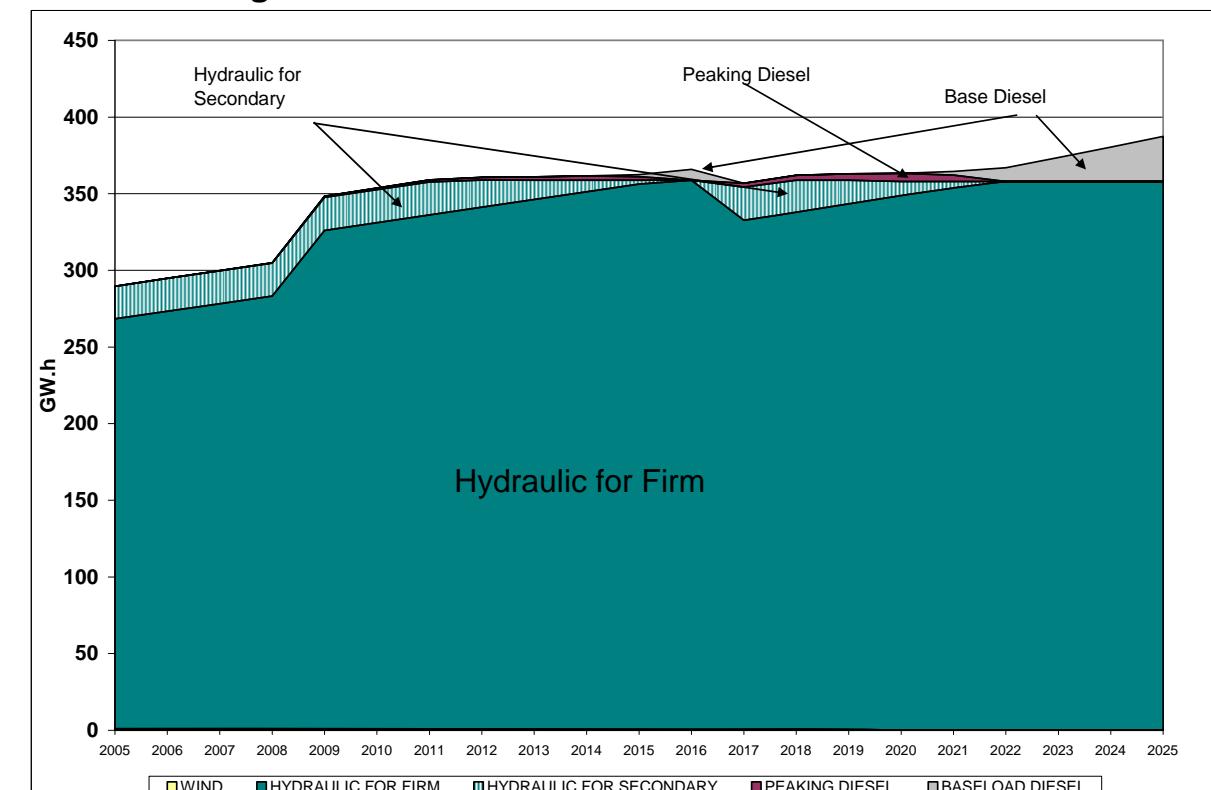
1.85%

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litre
MD Diesel Price per litre 2005	0.650	\$/Litre
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2	
2 firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6	
3 INDUSTRIAL	0.0	0.0	0.0	0.0	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
4 TOTAL FIRM LOAD	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
5 SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	20.0	20.0	16.4	11.6	6.9	2.2	0.0	20.0	19.2	14.2	8.7	3.8	0.0	0.0	0.0	0.0	
6 losses	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	0.9	0.5	0.2	0.0	1.5	1.5	1.1	0.7	0.3	0.0	0.0	0.0	0.0	
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	348.4	353.7	359.0	360.7	361.0	361.7	362.4	365.9	356.8	362.0	362.9	363.3	364.5	367.0	373.7	380.5	387.5	
GENERATION (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
8 HYDRAULIC FOR FIRM	267.5	272.4	277.3	282.4	325.2	330.2	335.3	340.3	345.5	350.6	355.6	358.0	332.0	337.4	342.7	348.7	353.9	358.0	358.0	358.0	358.0	
9 WIND	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	
10 PEAKING DIESEL	0.0	0.0	0.0	0.1	0.8	1.0	1.3	1.8	2.3	2.9	2.4	0.0	2.5	3.3	4.2	5.3	4.1	0.0	0.0	0.0	0.0	
11 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	7.2	0.0	0.0	0.0	0.0	2.4	9.0	15.7	22.5	29.5	
12 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
13 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	21.5	21.5	17.7	12.5	7.4	2.4	0.0	21.5	20.6	15.3	9.3	4.1	0.0	0.0	0.0	0.0	
14 TOTAL GENERATION	289.7	294.8	299.8	304.9	348.4	353.7	359.0	360.7	361.0	361.7	362.4	365.9	356.8	362.0	362.9	363.3	364.5	367.0	373.7	380.5	387.5	
SURPLUS HYDRO (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
15 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.7	358.7	358.7	358.7	358.7	358.7	358.7	358.7	358.0	358.0	358.0	358.0	358.0	358.0	
16 Firm Load	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
17 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	32.1	26.8	21.4	15.9	10.2	4.5	(1.3)	(7.2)	23.5	17.3	11.1	4.0	(2.4)	(9.0)	(15.7)	(22.5)	(29.5)	
ECONOMIC VALUES (\$000s) - WAF	NPV to 2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
18 FUEL COSTS	8,979	0	0	4	18	157	211	283	378	500	653	812	1,487	602	796	1,036	1,327	1,610	2,098	3,734	5,465	7,296
19 VARIABLE O & M COSTS	828	0	0	2	13	18	24	32	43	56	72	143	52	68	89	114	144	201	358	525	700	
20 SECONDARY ENERGY SALES	(10,498)	(1,174)	(1,208)	(1,228)	(1,238)	(1,112)	(1,079)	(1,027)	(707)	(261)	(488)	(162)	0	(1,502)	(1,468)	(1,112)	(690)	(311)	0	0	0	
21 TOTAL	(691)	(1,174)	(1,208)	(1,228)	(1,238)	(1,112)	(1,079)	(1,027)	(707)	(261)	(488)	(162)	0	(1,502)	(1,468)	(1,112)	(690)	(311)	0	0	0	

Table B-4
WAF System with Minto at 32.5 GW.h with Aishihik in service 2010

WAF SALES AND GENERATION
Minto 32.5 GWh starting 2009 and Aishihik 3rd Turbine in service in 2010

Key Assumptions
Industrial

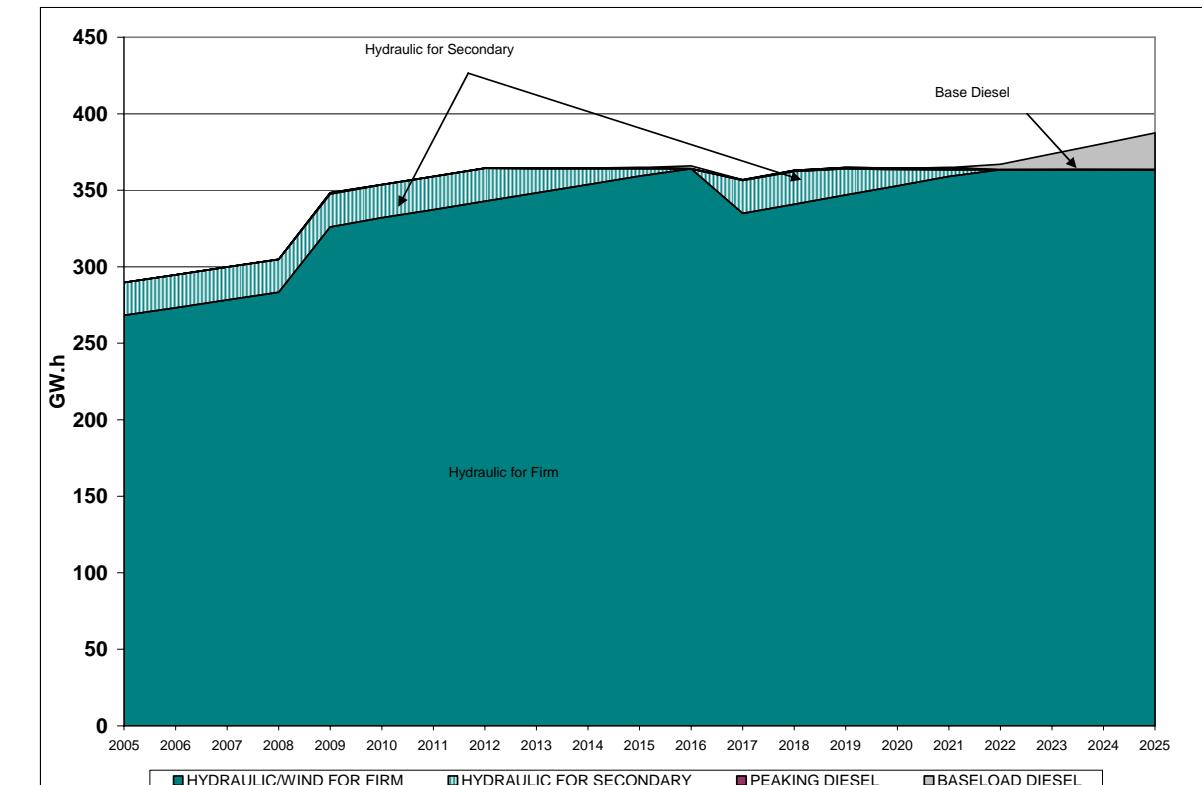
	Minto PELLY CC	year	Energy	Peak	loss
2009	2009	2009	32.5	4.4	12.70%
2009	2009	2009	1.5	0.2	12.70%
no	no	no			12.70%
C - S connection					
Aishihik 3rd Turbine		2010	5.4	7	
Load Forecast Sensitivity		1.85%			

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litres
MD Diesel Price per litre 2005	0.650	\$/Litres
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2
2 WAF firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6
3 WAF INDUSTRIAL (incl. losses)	0.0	0.0	0.0	0.0	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
4 TOTAL WAF FIRM LOAD	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
5 WAF SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	14.8	9.7	4.4	0.0	20.0	20.0	16.1	9.7	4.1	0.0	0.0	0.0	0.0
6 losses	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.1	0.7	0.3	0.0	1.5	1.5	1.2	0.8	0.3	0.0	0.0	0.0	0.0
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	348.4	353.7	359.0	364.5	364.5	364.6	364.8	365.9	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5

GENERATION (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
8 HYDRAULIC/WIND FOR FIRM	268.4	273.3	278.2	283.3	326.1	332.1	337.4	342.7	348.2	353.7	359.4	364.1	334.9	340.8	346.8	352.9	359.0	363.4	363.4	363.4	363.4
9 PEAKING DIESEL	0.0	0.0	0.0	0.1	0.8	0.1	0.1	0.2	0.4	0.5	0.7	0.0	0.4	0.6	0.8	1.1	1.4	0.0	0.0	0.0	0.0
10 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.6	10.3	17.1	24.1
11 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
12 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	21.5	21.5	21.5	15.9	10.4	4.8	0.0	21.5	21.5	17.3	10.5	4.4	0.0	0.0	0.0	0.0
13 TOTAL GENERATION	289.7	294.8	299.8	304.9	348.4	353.7	359.0	364.5	364.5	364.6	364.8	365.9	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5

SURPLUS HYDRO (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
14 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	364.3	364.3	364.3	364.1	364.1	364.1	364.1	364.1	364.1	363.4	363.4	363.4	363.4	363.4	363.4	
15 Firm Load	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
16 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	32.1	32.2	26.8	21.3	15.6	9.9	4.1	(1.8)	28.9	22.7	16.5	9.4	3.0	(3.6)	(10.3)	(17.1)	(24.1)

ECONOMIC VALUES (\$000s) - WAF

	NPV to 2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2
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Table B-5
WAF System with Minto at 32.5 GW.h with Aishihik in service in 2013

WAF SALES AND GENERATION
Minto 32.5 GWh starting 2009 and Aishihik 3rd Turbine in service in 2013

Key Assumptions
Industrial

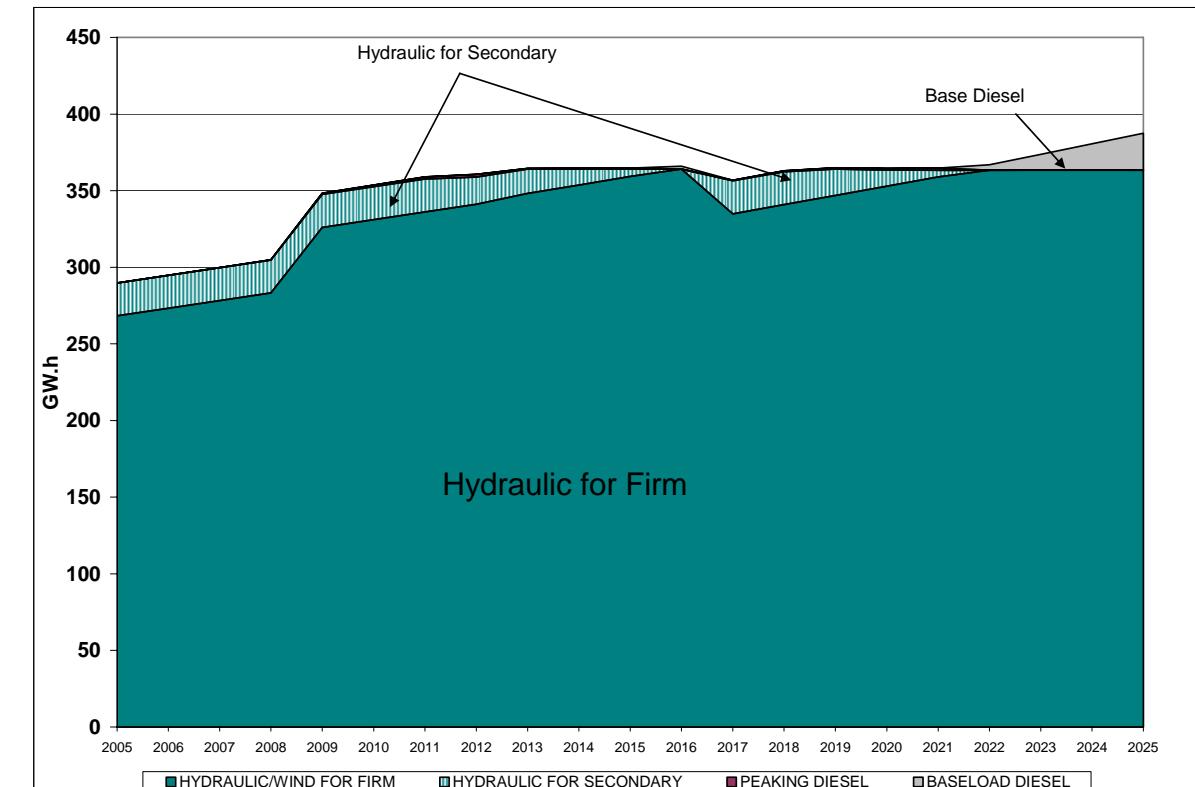
Minto PELLY CC	year 2009 2009	Energy 32.5 1.5	Peak 4.4 0.2	loss	
				12.70%	12.70%
	no				
	no				
C - S connection					
Aishihik 3rd Turbine					
Load Forecast Sensitivity	2013	5.4	7		
	1.85%				

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litres
MD Diesel Price per litre 2005	0.650	\$/Litres
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2
2 WAF firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6
3 WAF INDUSTRIAL (incl. losses)	0.0	0.0	0.0	0.0	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
4 TOTAL WAF FIRM LOAD	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
5 WAF SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	20.0	20.0	16.4	14.8	9.7	4.4	0.0	20.0	20.0	16.1	9.7	4.1	0.0	0.0	0.0	0.0
6 losses	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.1	0.7	0.3	0.0	1.5	1.5	1.2	0.8	0.3	0.0	0.0	0.0	0.0
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	348.4	353.7	359.0	360.7	364.5	364.6	364.8	365.9	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5

GENERATION (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
8 HYDRAULIC/WIND FOR FIRM	268.4	273.3	278.2	283.3	326.1	331.1	336.2	341.2	348.2	353.7	359.4	364.1	334.9	340.8	346.8	352.9	359.0	363.4	363.4	363.4	363.4
9 PEAKING DIESEL	0.0	0.0	0.0	0.1	0.8	1.0	1.3	1.8	0.4	0.5	0.7	0.0	0.4	0.6	0.8	1.1	1.4	0.0	0.0	0.0	0.0
10 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.6	10.3	17.1	24.1
11 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
12 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	21.5	21.5	17.7	15.9	10.4	4.8	0.0	21.5	21.5	17.3	10.5	4.4	0.0	0.0	0.0	0.0
13 TOTAL GENERATION	289.7	294.8	299.8	304.9	348.4	353.7	359.0	360.7	364.5	364.6	364.8	365.9	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5

SURPLUS HYDRO (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
14 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.9	364.1	364.1	364.1	364.1	364.1	364.1	363.4	363.4	363.4	363.4	363.4	363.4	
15 Firm Load	268.4	273.3	278.3	283.3	326.8	332.1	337.5	343.0	348.6	354.2	360.0	365.9	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
16 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	32.1	26.8	21.4	15.9	15.6	9.9	4.1	(1.8)	28.9	22.7	16.5	9.4	3.0	(3.6)	(10.3)	(17.1)	(24.1)

ECONOMIC VALUES (\$000s) - WAF

	NPV to 2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

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Table B-6
WAF System with Minto at 42 GW.h

WAF SALES AND GENERATION
Minto 42.0 GWh starting 2009

Key Assumptions

Industrial

Minto
PELLY
CC

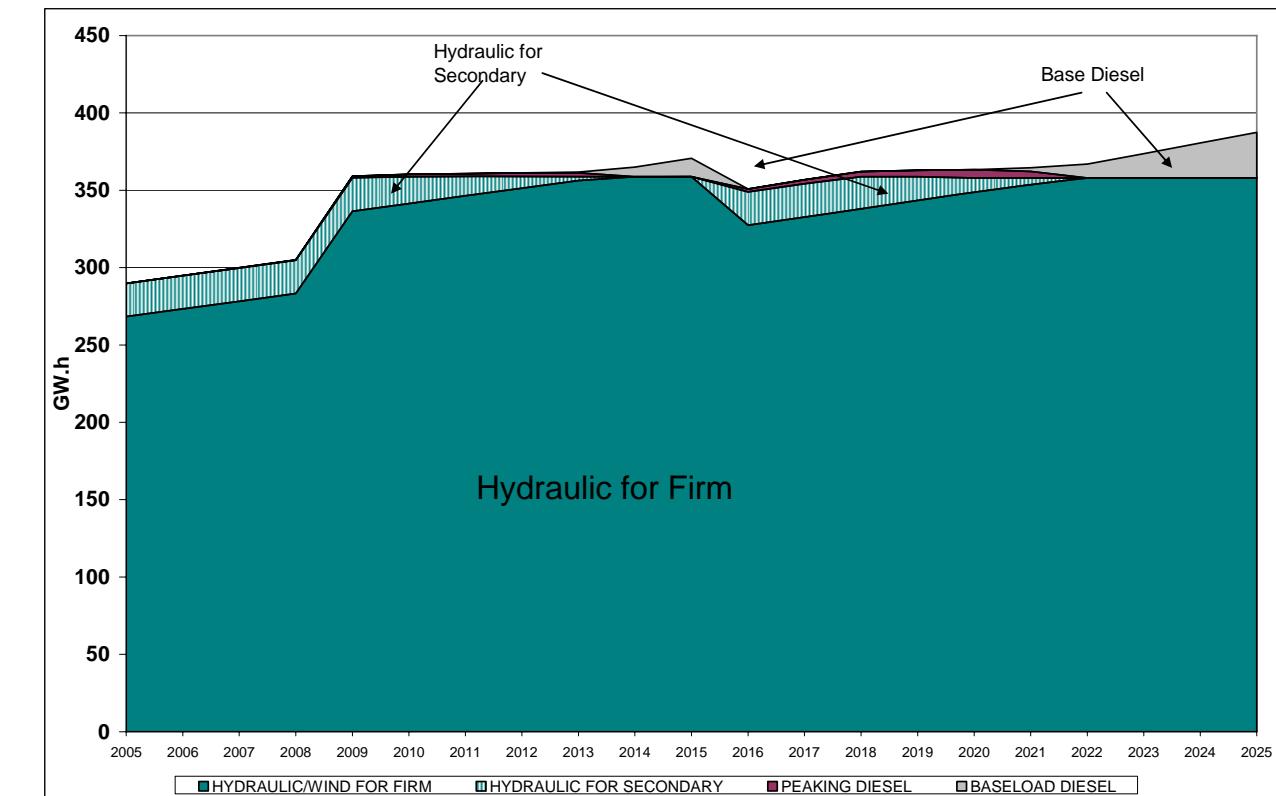
year	Energy	Peak	loss
2009	42	5.7	12.70%
2009	1.5	0.2	12.70%
			12.70%
no			
no			
no			
1.85%			

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litre
MD Diesel Price per litre 2005	0.650	\$/Litre
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2
2 WAF firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6
3 WAF INDUSTRIAL (incl. losses)	0.0	0.0	0.0	0.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
4 TOTAL WAF FIRM LOAD	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
5 WAF SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	16.2	11.6	7.0	2.3	0.0	0.0	20.0	20.0	19.2	14.2	8.7	3.8	0.0	0.0	0.0	0.0
6 losses	1.5	1.5	1.5	1.5	1.5	1.2	0.9	0.5	0.2	0.0	0.0	1.5	1.5	1.5	1.1	0.7	0.3	0.0	0.0	0.0	0.0
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	359.1	360.3	360.7	361.2	361.7	364.9	370.7	350.8	356.8	362.0	362.9	363.3	364.5	367.0	373.7	380.5	387.5

GENERATION (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
8 HYDRAULIC/WIND FOR FIRM	268.4	273.3	278.2	283.3	336.5	341.4	346.4	351.3	356.3	358.7	358.7	327.3	332.7	338.1	343.4	348.7	353.9	358.0	358.0	358.0	358.0
9 PEAKING DIESEL	0.0	0.0	0.0	0.1	1.1	1.4	1.8	2.3	2.5	0.0	0.0	1.9	2.5	3.3	4.2	5.3	4.1	0.0	0.0	0.0	0.0
10 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	6.2	12.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	9.0	15.7	22.5	29.5
11 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
12 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	17.5	12.5	7.6	2.5	0.0	0.0	21.5	21.5	20.6	15.3	9.3	4.1	0.0	0.0	0.0	0.0
13 TOTAL GENERATION	289.7	294.8	299.8	304.9	359.1	360.3	360.7	361.2	361.7	364.9	370.7	350.8	356.8	362.0	362.9	363.3	364.5	367.0	373.7	380.5	387.5

SURPLUS HYDRO (GWh)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
14 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.7	358.7	358.7	358.7	358.7	358.7	358.0	358.0	358.0	358.0	358.0	358.0	
15 Firm Load	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5
16 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	21.3	16.1	10.7	5.2	(0.5)	(6.2)	(12.0)	29.5	23.5	17.3	11.1	4.0	(2.4)	(9.0)	(15.7)	(22.5)	(29.5)

ECONOMIC VALUES (\$000s) - WAF

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
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Table B-7
WAF System with Minto at 42 GW.h with Aishihik in service in 2010

WAF SALES AND GENERATION
Minto 42.0 GWh starting 2009 and Aishihik 3rd Turbine in service in 2010

Key Assumptions

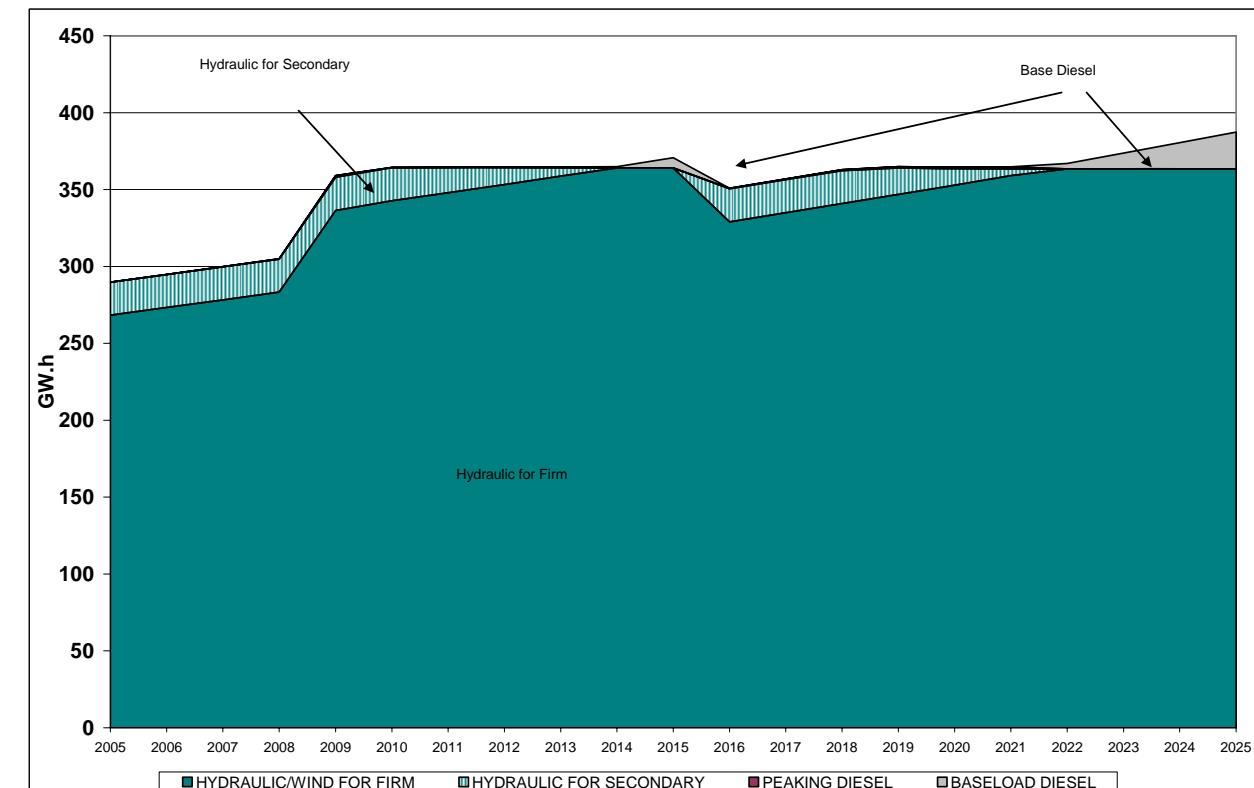
Industrial	Minto PELLY CC	year	Energy	Peak	loss
		2009	42	5.7	12.70%
		2009	1.5	0.2	12.70%
		no			12.70%
C - S connection		no			
Aishihik 3rd Turbine		2010	5.4	7	
Load Forecast Sensitivity		1.85%			

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litre
MD Diesel Price per litre 2005	0.650	\$/Litre
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2		
2 WAF firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6		
3 WAF INDUSTRIAL (incl. losses)	0.0	0.0	0.0	0.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		
4 TOTAL WAF FIRM LOAD	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5		
5 WAF SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	20.0	15.2	10.2	5.0	0.0	0.0	20.0	20.0	20.0	16.1	9.7	4.1	0.0	0.0	0.0	0.0		
6 losses	1.5	1.5	1.5	1.5	1.5	1.5	1.2	0.8	0.4	0.0	0.0	1.5	1.5	1.5	1.2	0.8	0.3	0.0	0.0	0.0	0.0		
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	359.1	364.4	364.6	364.7	364.6	364.9	370.7	350.8	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5		
GENERATION (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
8 HYDRAULIC/WIND FOR FIRM	268.4	273.3	278.2	283.3	336.5	342.7	347.9	353.3	358.7	364.1	364.1	329.0	334.9	340.8	346.8	352.9	359.0	363.4	363.4	363.4	363.4		
9 PEAKING DIESEL	0.0	0.0	0.0	0.1	1.1	0.2	0.3	0.4	0.5	0.0	0.0	0.3	0.4	0.6	0.8	1.1	1.4	0.0	0.0	0.0	0.0		
10 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	6.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	10.3	17.1	24.1		
11 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5		
12 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	21.5	16.4	11.0	5.4	0.0	0.0	21.5	21.5	21.5	17.3	10.5	4.4	0.0	0.0	0.0	0.0		
13 TOTAL GENERATION	289.7	294.8	299.8	304.9	359.1	364.4	364.6	364.7	364.6	364.9	370.7	350.8	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5		
SURPLUS HYDRO (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
14 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	364.3	364.3	364.3	364.1	364.1	364.1	364.1	364.1	364.1	363.4	363.4	363.4	363.4	363.4	363.4	363.4		
15 Firm Load	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5		
16 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	21.3	21.5	16.1	10.6	4.9	(0.8)	(6.6)	34.9	28.9	22.7	16.5	9.4	3.0	(3.6)	(10.3)	(17.1)	(24.1)		
ECONOMIC VALUES (\$000s) - WAF	NPV to 2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
18 FUEL COSTS		4,831	0	0	4	18	217	32	54	80	111	160	1,339	66	98	139	192	265	363	838	2,449	4,154	5,958
19 VARIABLE O & M COSTS		456	0	0	0	2	19	3	5	7	10	15	128	6	8	12	16	23	31	80	235	399	572
20 SECONDARY ENERGY SALES		(10,224)	(1,174)	(1,208)	(1,233)	(1,257)	(1,282)	(1,308)	(1,013)	(694)	(347)	0	0	(1,473)	(1,502)	(1,533)	(1,255)	(777)	(332)	0	0	0	0
21 TOTAL		(4,936)	(1,174)	(1,208)	(1,228)	(1,238)	(1,047)	(1,273)	(954)	(608)	(226)	175	1,467	(1,402)	(1,396)	(1,382)	(1,047)	(490)	62	918	2,684	4,553	6,530

Table B-8
WAF System with Minto at 42 GW.h with Aishihik in service in 2013

WAF SALES AND GENERATION
Minto 42.0 GWh starting 2009 and Aishihik 3rd Turbine in service in 2013

Key Assumptions

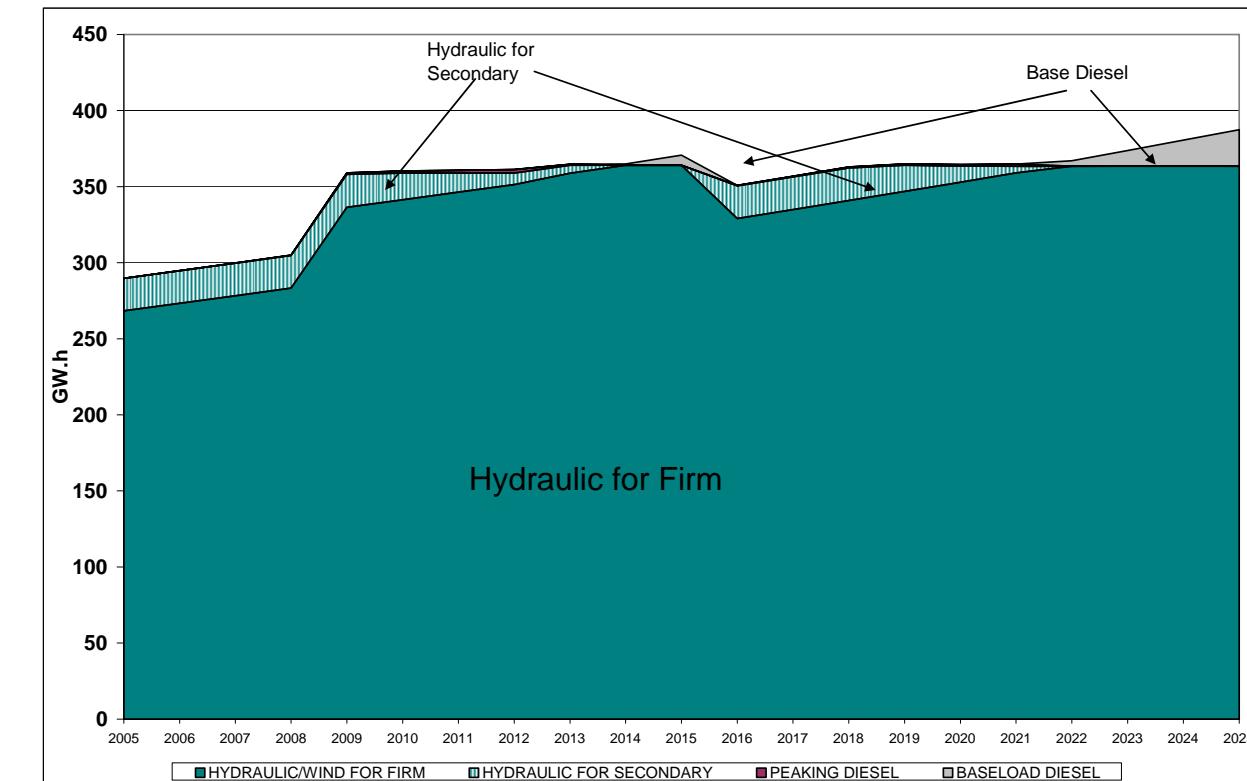
Industrial	Minto PELLY CC	year	Energy	Peak	loss
		2009	42	5.7	12.70%
		2009	1.5	0.2	12.70%
		no			12.70%
C - S connection		no			
Aishihik 3rd Turbine		2013	5.4	7	
Load Forecast Sensitivity			1.85%		

Other Notes:

1. Secondary sales cap is 20.0 GW.h
2. Peaking dispatch assumes 56.0 MW

Economic Assumptions

Peaking Diesel Efficiency	3.480	kWh/Litre
Baseload Diesel Efficiency	3.900	kWh/Litre
WAF Diesel Price per litre 2005	0.650	\$/Litre
MD Diesel Price per litre 2005	0.650	\$/Litre
Secondary Energy Rate 2005	0.055	\$/kWh
Variable O&M per kW.h 2005	0.016	\$/kWh
WACC 2005	7.52%	
Inflation	2.00%	



SALES (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
1 WAF LOAD	249.2	253.7	258.4	263.1	267.9	272.8	277.8	282.9	288.1	293.3	298.7	304.2	309.7	315.4	321.2	327.1	333.1	339.2	345.4	351.7	358.2	
2 WAF firm losses (7.7%)	19.2	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.2	25.6	26.1	26.6	27.1	27.6	
3 WAF INDUSTRIAL (incl. losses)	0.0	0.0	0.0	0.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
4 TOTAL WAF FIRM LOAD	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
5 WAF SECONDARY SALES	19.8	20.0	20.0	20.0	20.0	16.2	11.6	7.0	5.0	0.0	0.0	20.0	20.0	20.0	16.1	9.7	4.1	0.0	0.0	0.0	0.0	
6 losses	1.5	1.5	1.5	1.5	1.5	1.2	0.9	0.5	0.4	0.0	0.0	1.5	1.5	1.5	1.2	0.8	0.3	0.0	0.0	0.0	0.0	
7 TOTAL WAF LOAD	289.7	294.8	299.8	304.9	359.1	360.3	360.7	361.2	364.6	364.9	370.7	350.8	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5	
GENERATION (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
8 HYDRAULIC/WIND FOR FIRM	268.4	273.3	278.2	283.3	336.5	341.4	346.4	351.3	358.7	364.1	364.1	329.0	334.9	340.8	346.8	352.9	359.0	363.4	363.4	363.4	363.4	
9 PEAKING DIESEL	0.0	0.0	0.0	0.1	1.1	1.4	1.8	2.3	0.5	0.0	0.0	0.3	0.4	0.6	0.8	1.1	1.4	0.0	0.0	0.0	0.0	
10 BASELOAD DIESEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	6.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	10.3	17.1	24.1	
11 TOTAL GENERATION FOR FIRM	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
12 HYDRAULIC FOR SECONDARY	21.3	21.5	21.5	21.5	21.5	17.5	12.5	7.6	5.4	0.0	0.0	21.5	21.5	21.5	17.3	10.5	4.4	0.0	0.0	0.0	0.0	
13 TOTAL GENERAION	289.7	294.8	299.8	304.9	359.1	360.3	360.7	361.2	364.6	364.9	370.7	350.8	356.8	362.9	364.9	364.5	364.8	367.0	373.7	380.5	387.5	
SURPLUS HYDRO (GWh)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
14 Long Term Average Hydro/Wind Generation	358.9	358.9	358.9	358.9	358.9	358.9	358.9	358.9	364.1	364.1	364.1	364.1	364.1	364.1	363.4	363.4	363.4	363.4	363.4	363.4		
15 Firm Load	268.4	273.3	278.3	283.3	337.6	342.8	348.2	353.7	359.3	364.9	370.7	329.3	335.3	341.4	347.6	354.0	360.4	367.0	373.7	380.5	387.5	
16 SURPLUS HYDRO/WIND FROM FIRM	90.5	85.6	80.6	75.6	21.3	16.1	10.7	5.2	4.9	(0.8)	(6.6)	34.9	28.9	22.7	16.5	9.4	3.0	(3.6)	(10.3)	(17.1)	(24.1)	
ECONOMIC VALUES (\$000s) - WAF	NPV to 2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
18 FUEL COSTS	5,478	0	0	4	18	217	289	383	504	111	160	1,339	66	98	139	192	265	363	838	2,449	4,154	5,958
19 VARIABLE O & M COSTS	511	0	0	0	2	19	25	33	43	10	15	128	6	8	12	16	23	31	80	235	399	572
20 SECONDARY ENERGY SALES	(9,768)	(1,174)	(1,208)	(1,233)	(1,257)	(1,282)	(1,061)	(775)	(478)	(347)	0	(1,473)	(1,502)	(1,533)	(1,255)	(777)	(332)	0	0	0	0	0
21 TOTAL	(3,778)	(1,174)	(1,208)	(1,228)	(1,238)	(1,047)	(747)	(359)	(226)	175	1,467	(1,402)	(1,396)	(1,382)	(1,047)	(490)	62	918	2,684	4,553	6,530	

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please reprint the Table D-1 so that it can be more easily read.

6

7 **ANSWER:**

8

9 Table D-1 is provided on an 11" x 17" sheet provided PWP-YEC-1-17 Attachment 1.

Table D-1 Summary of Minto Electricity Cost Cash Flows with PPA (\$000,000)													
\$/kWh	Year Year Starting :	Minto Electricity Cash Flows (\$million)											
		1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016			
On Site Diesel (without PPA)	0.24	<small>(half year)</small>	3.9	7.8									
Minto Electricity Costs with PPA													
Power Rate	0.10		1.63	3.25	3.25	3.25	3.25	3.25	3.25	3.25			
Capital Cost Contribution at \$11 million													
Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)		PV	0.35	0.70	0.70	0.70	0.70	0.70	0.35	-			
CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs)		7.5%	0.26	0.52	0.52	0.52	1.60	2.68	2.68	1.34	-		
Total Capital Cost Contribution Payments			0.61	1.22	1.22	1.22	2.30	3.38	3.38	1.69	-		
Total PPA Grid Power Cost			2.24	4.47	4.47	4.47	5.55	6.63	6.63	4.94	3.25		
Net Cash Saving for Minto Electricity		PV	7.5%	\$16.61	1.66	3.33	3.33	3.33	2.25	1.17	1.17	2.86	4.55

Summary of Minto Electricity Cost Cash Flows with and without PPA inducing Diesel Units (\$000,000)
Power Requirement at 32.5 GW.h/year - 2008 through 2016

\$/kWh	Year Year Starting :	Minto Electricity Cash Flows (\$million)											
		1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016			
On Site Diesel (without PPA)	0.24	<small>(half year)</small>	3.9	7.8									
Minto Electricity Costs with PPA													
Power Rate	0.10		1.63	3.25	3.25	3.25	3.25	3.25	3.25	3.25			
Capital Cost Contribution at \$11 million													
Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)		PV	0.35	0.70	0.70	0.70	0.70	0.70	0.35	-			
Diesel Units offset payments by YEC (\$2.24 million)	(\$2.09)	(\$2.09)	(0.20)	(0.41)	(0.41)	(0.41)	(0.41)	(0.41)	(0.20)	-			
Total Including Diesel			0.15	0.29	0.29	0.29	0.29	0.29	0.15	0.00			
CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs)		PV	0.26	0.52	0.52	0.52	1.60	2.68	2.68	1.34	-		
Total Capital Cost Contribution Payments			0.41	0.81	0.81	0.81	1.89	2.97	2.97	1.48	-		
Total PPA Grid Power Cost			2.03	4.06	4.06	4.06	5.14	6.22	6.22	4.73	3.25		
Net Cash Saving for Minto Electricity		PV	7.5%	\$18.70	1.87	3.74	3.74	3.74	2.66	1.58	1.58	3.07	4.55

1 **REFERENCE:** **Part 5 Capital Cost Contribution**

2

3 **QUESTION:**

4

5 1. Why in **PART 5 CAPITAL COST CONTRIBUTION** is the \$7.2M amount not
6 actually stated as being the Carmacks-Minto Landing Capital Cost Contribution?
7 Why does this \$7.2M figure only appear in the Definitions?

8

9 **ANSWER:**

10

11 This is a contract. The Carmacks-Minto Landing Capital Cost Contribution is a defined
12 term and is defined as a sum of \$7.2 million, representing Minto's contribution to the
13 Capital Costs incurred by YEC for the Carmacks-Minto Landing Segment. Legally, there
14 is no need to repeat the definition throughout the rest of the document.

1 **REFERENCE:** **Schedule D (1) and (2) c)**

2

3 **QUESTION:**

4

5 1. Please describe in detail and provide draft reporting forms that YEC plans to
6 employ under **SCHEDULE D (1)** to prove/ensure that "the customer" has
7 provided "YEC with auditable reporting and controls as reasonably required by
8 YEC to confirm that all Secondary Energy so provided has been used only to
9 process Low Grade Ore". And provide similar details / forms to be used under
10 (2) c).

11

12 **ANSWER:**

13

14 Please see YUB-YEC-1-11(2). YEC has not yet developed any specific draft reporting
15 forms in this regard.

1 **REFERENCE:** **Schedule D: Interruptions**

2

3 **QUESTION:**

4

5 1. In **SCHEDULE D** under **INTERRUPTIONS**: should the wording “on notice not
6 exceeding 24 hours” not be changed to read “on notice of not less than 24
7 hours”?

8

9 **ANSWER:**

10

11 No. The wording limits the extent of notice that Minto is entitled to for an interruption.
12 The intent of the Parties is to have such notice effective as soon as practicable within the
13 24 hour period.

1 **REFERENCE:** **Page 19 of the PPA under 4.4 Point of Delivery**

2

3 **QUESTION:**

4

5 1. On page 19 of the PPA under **4.4 Point of Delivery** it states "YEC
6 may,...establish and maintain the Point of Delivery at the Diesel Plant Site after
7 YEC having provided written notice to Minto." Is YEC considering establishing
8 the Point of Delivery elsewhere? If so where and why? Would it not be to YEC'
9 and the rest of the electric rate payers' advantage for YEC to establish the Point
10 of Delivery with appropriate metering at the Minto Landing substation thereby
11 having the mine pick up the line losses on the lengthy 34.5 kV distribution line?

12

13 **ANSWER:**

14

15 Under the PPA, the Point of Delivery will be at the Mine Site. Other options are not
16 provided for in the PPA.

17

18 The Point of Delivery is defined on page 11 as "the point at the Mine Site which YEC's
19 service conductors forming part of the Transmission Project are connected to the wires
20 or apparatus of Minto at the Diesel Plant Site, specifically at the secondary side of the
21 transformation equipment used to step down from 25 kV or 35 kV to 4.16 kV which will
22 be the point of metering." The Diesel Plant Site is defined on page 5 of the PPA as "the
23 location at the Mine Site where the Diesel Units and any other diesel generator owned or
24 leased by Minto are situated, and includes any substation facilities used by Minto that
25 are located in or adjacent to such location."

26

27 The above-referred section 4.4 sets out that Grid Electricity will be delivered and
28 received at the Point of Delivery - the above-noted defined term located at the Diesel
29 Plant Site. YEC may establish and maintain the Point of Delivery at the Diesel Plant Site
30 after YEC has provided written notice to Minto.

1 **REFERENCE:** **Schedule F General Security Agreement pp 3; 1.2**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT** pp 3; 1.2 **Collateral** is there
6 a repeat typo error at the end of the paragraph?

7

8 **ANSWER:**

9

10 This will be corrected with the GSA is executed – the correct reference should be to 1.1
11 (b).

1 **REFERENCE:** **Schedule F General Security Agreement pp 4; 1.3 (c)**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT** pp 4; 1.3 (c) **Exclusions**
6 please explain what "consumer goods" might include.

7

8 **ANSWER:**

9

10 Consumer goods are goods which are used or acquired for use primarily for personal,
11 family or household purposes. This is a standard exclusion in corporate security
12 agreements.

1 **REFERENCE:** **Schedule F General Security Agreement (GSA) pp 4; 1.7**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT (GSA)** pp 4; 1.7 **Floating**
6 **Charge Not a Fixed Charge** if the PPA and this Security Agreement are to be
7 governed by the laws of Yukon why is the meaning defined by the *BC Land Title*
8 *Act*?

9

10 **ANSWER:**

11

12 Minto has an office in Vancouver as well as in the Yukon and this is the reason for the
13 reference to British Columbia.

1 **REFERENCE:** **GSA Part 3 pp 6; 3.1(a) (iv)**

2

3 **QUESTION:**

4

5 1. In the GSA PART 3 pp 6; 3.1(a) (iv) Has the Debtor (Minto) obtained the consent
6 in writing referred to?

7

8 **ANSWER:**

9

10 Yes, the consent is part of the Direct Agreement between Macquarie Bank, YEC and
11 Minto.

1 **REFERENCE:** **GSA Part 4 pp 9; 4.1(p)**

2

3 **QUESTION:**

4

5 1. In the **GSA PART 4** pp 9; 4.1(p) Under what circumstances and for what
6 purposes would the Secured Party (YEC) contemplate advancing money to the
7 Debtor (Minto) to purchase or acquire anything? Please explain.

8

9 **ANSWER:**

10

11 It is unknown and not contemplated at this time, but this is included in case of such a
12 contingency. This is a standard term in a commercial general security agreement.

1 **REFERENCE:** **GSA Schedule 1**

2

3 **QUESTION:**

4

5 1. Regarding the **GSA SCHEDULE 1**: Please provide the dollar amounts for each
6 and all of the Prior Security Interests.

7

8 **ANSWER:**

9

10 The amounts owing under these prior equipment contracts will be relatively minimal
11 compared to the amounts owing to Macquarie Bank and all of these charges are for
12 specific pieces of equipment which relate to the construction or operation of the mine.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. In the Event of Default can YEC elect to only assume the Debtor's collateral
6 security / assets that do not have liabilities attached to them - i.e. avoid mining
7 claims to which there may be large out standing environmental remediation work
8 still required or possibly the acid generating low grade ore stockpile and the site /
9 claim(s) on which this stockpile is located? Or does the loser take all?

10

11 **ANSWER:**

12

13 In an enforcement scenario, YEC will always have the option whether or not to take
14 possession or control of a specific asset of the debtor. Merely because a secured party
15 holds a security interest in an asset does not mean that the secured party will have
16 responsibility for it.

1 **REFERENCE:** **Maps of Schedule A & B**

2

3 **QUESTION:**

4

5 1. Please reproduce all the maps of SCHEDULE A & B on 11"x17" at a suitable
6 scale so that they can be seen by the naked eye.

7

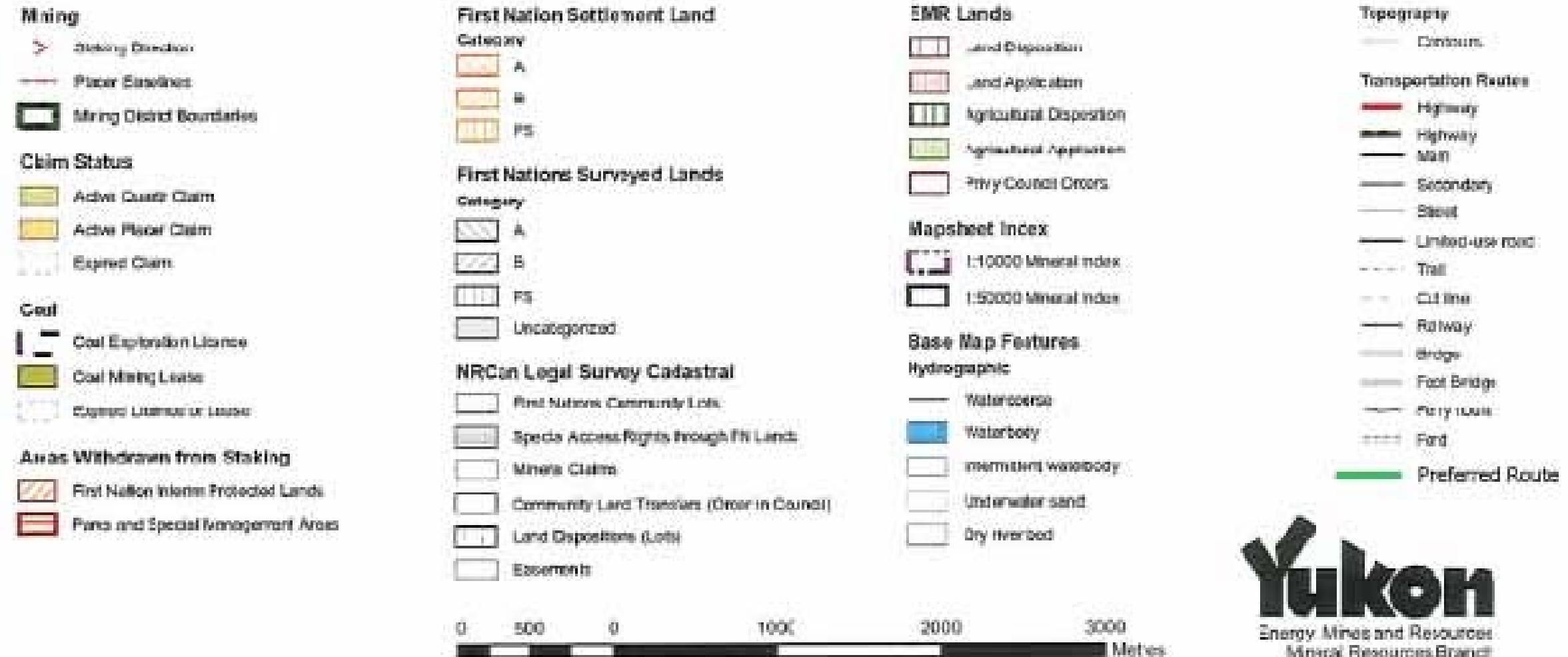
8 **ANSWER:**

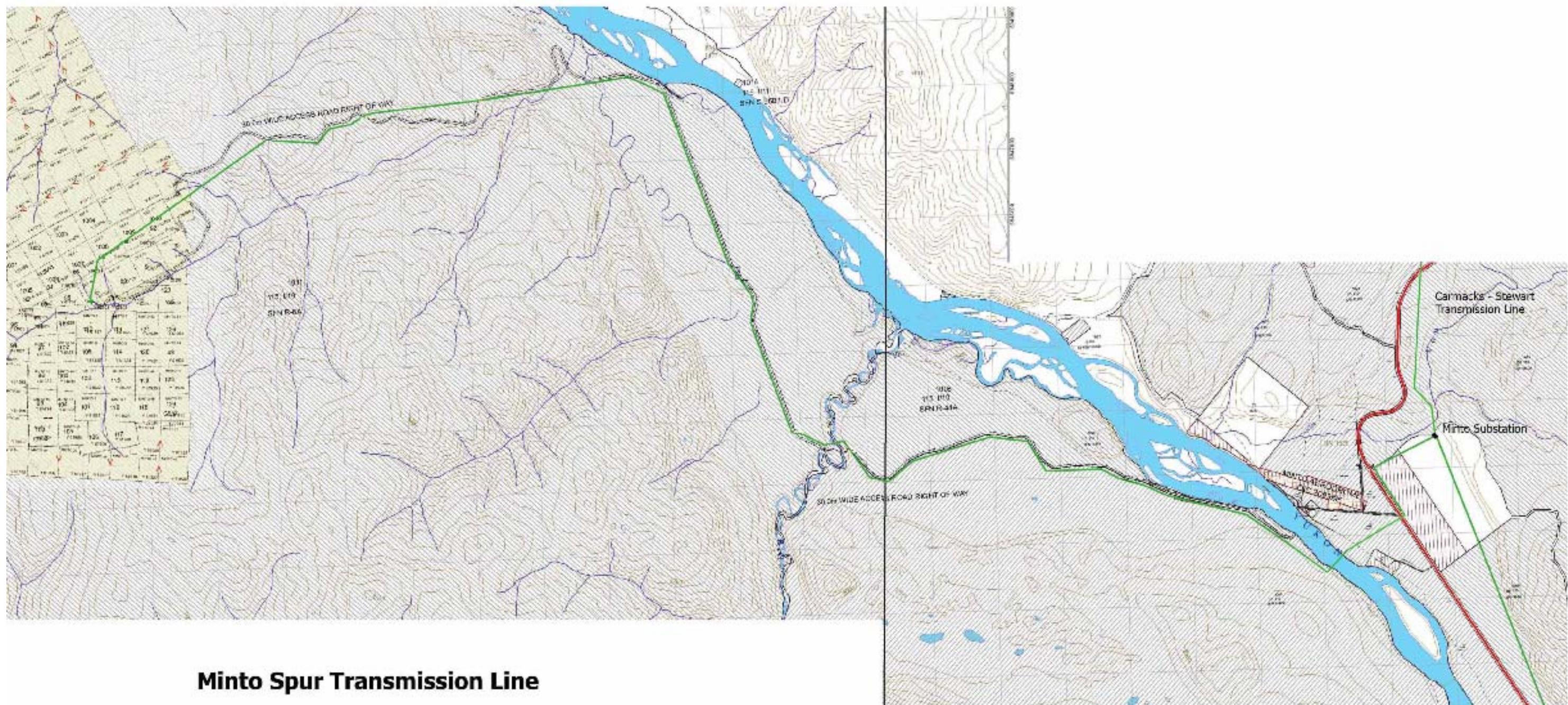
9

10 SCHEDULE A & B are provided on 11" x 17" sheets in PWP-YEC-1-29 Attachment 1.

SCHEDULE A

PLANNED ROUTE FOR MINE SPUR





Minto Spur Transmission Line

Preferred Route

SCHEDULE B

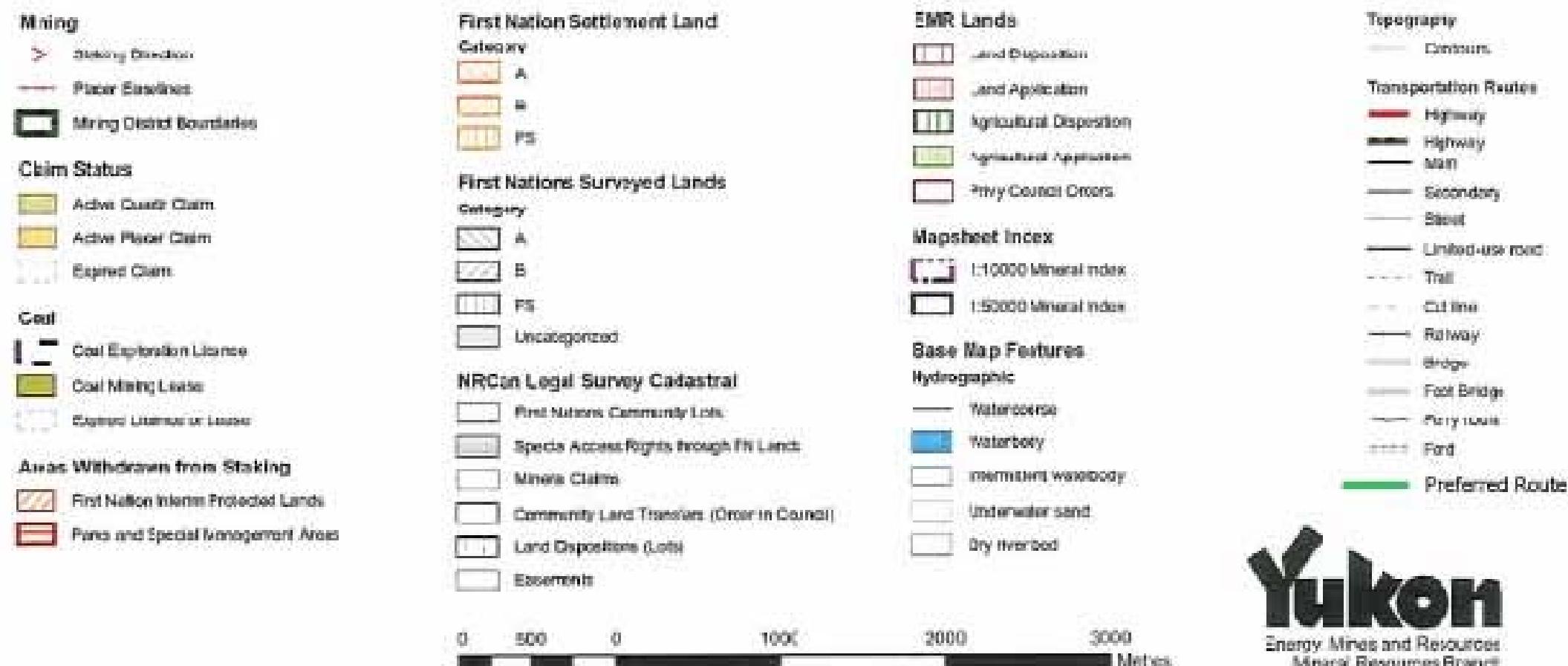
PLANNED ROUTE FOR CARMACKS-MINTO LANDING SEGMENT

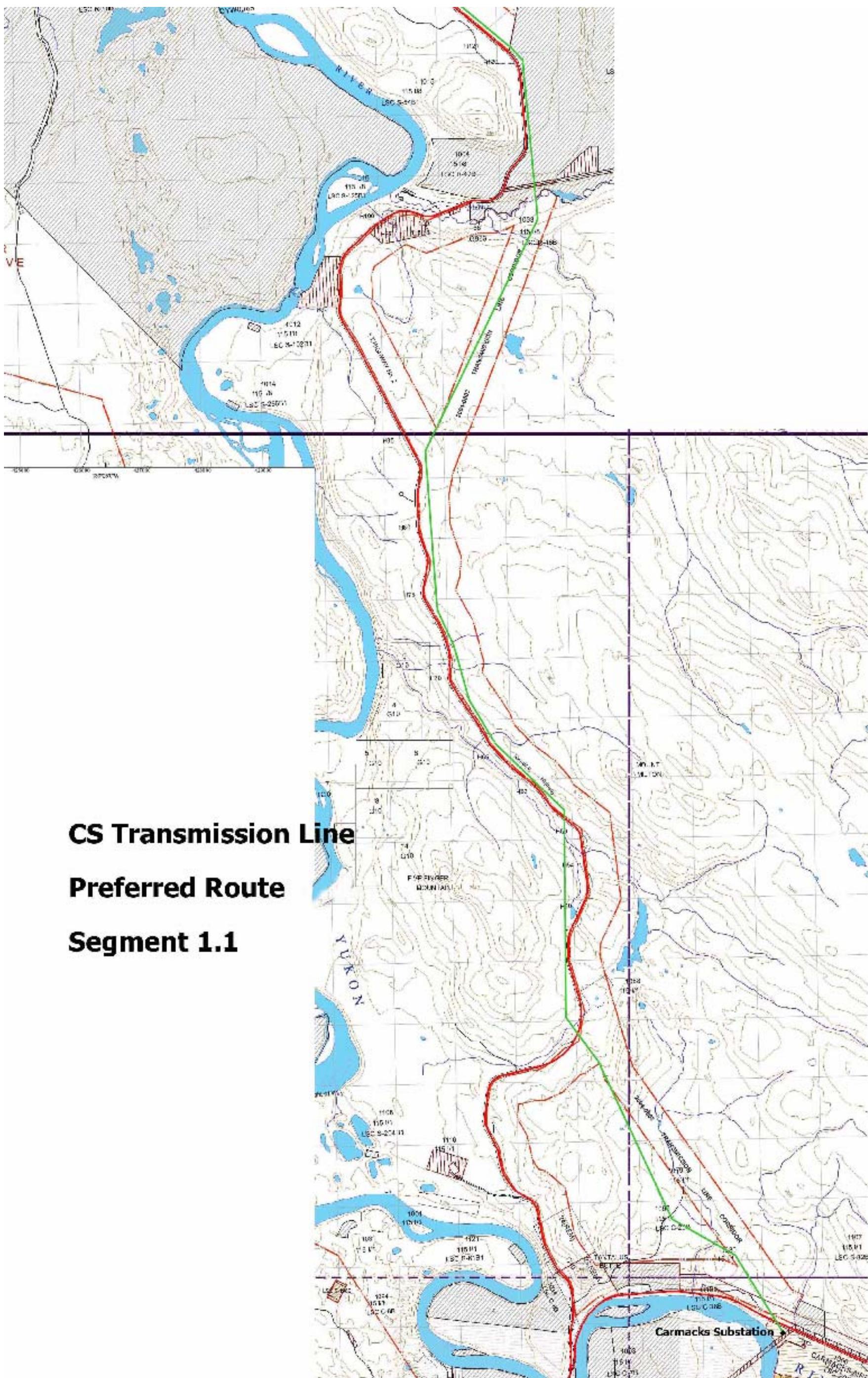
Segment 1

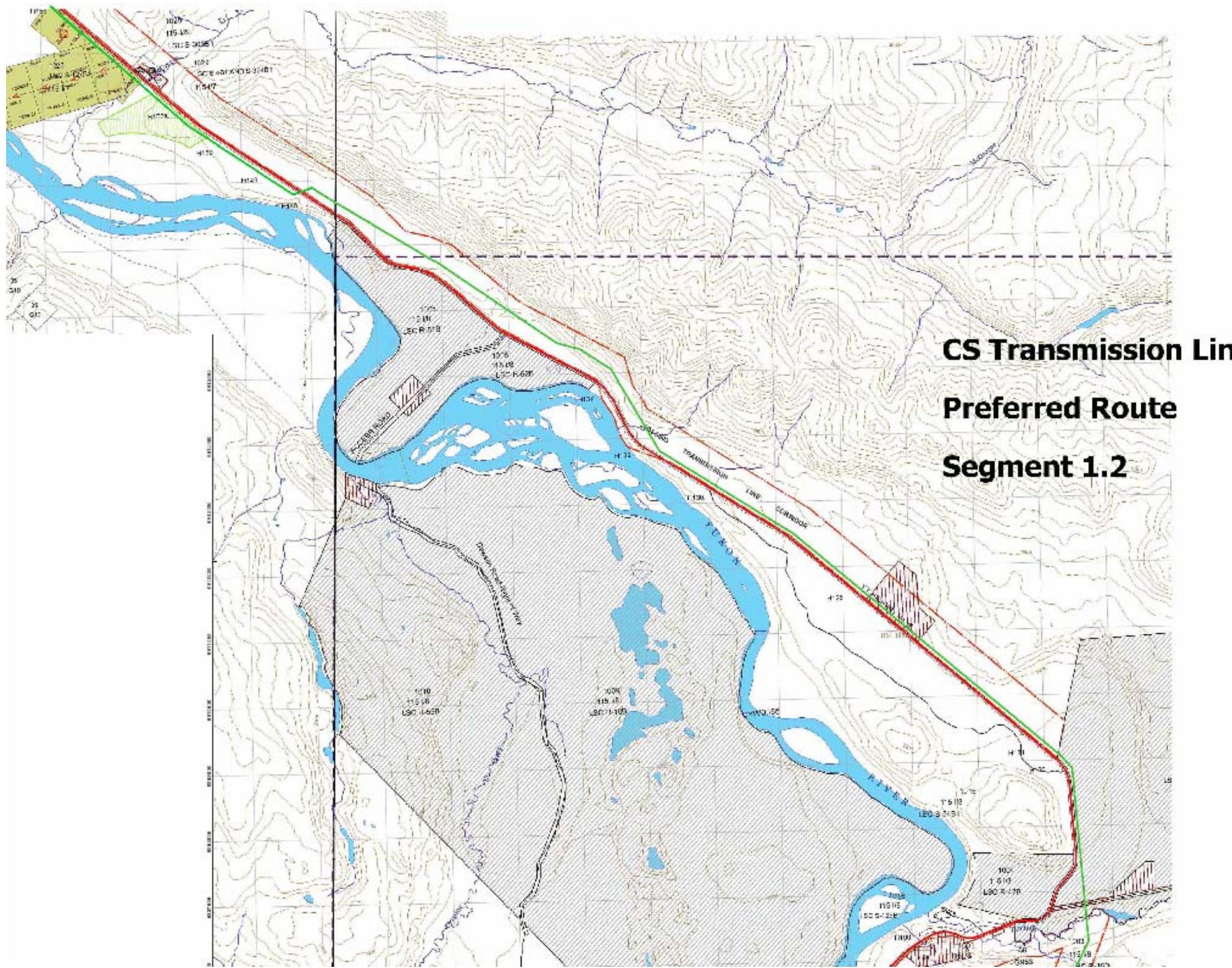
Map 1 Segment 1.1 Carmacks to Tatchun Creek
Map 2 Segment 1.2 Tatchun Creek to McGregor Creek

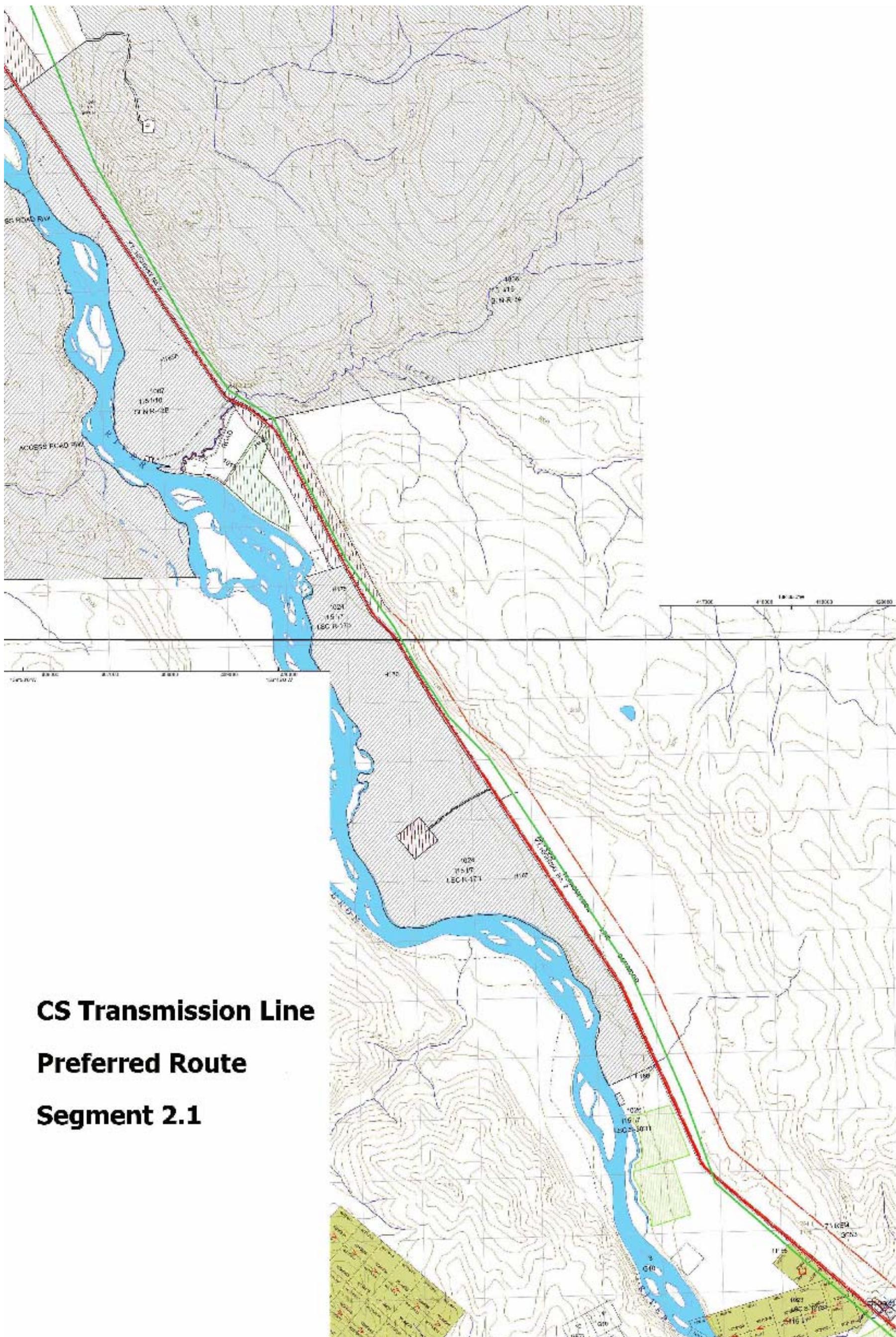
Segment 2

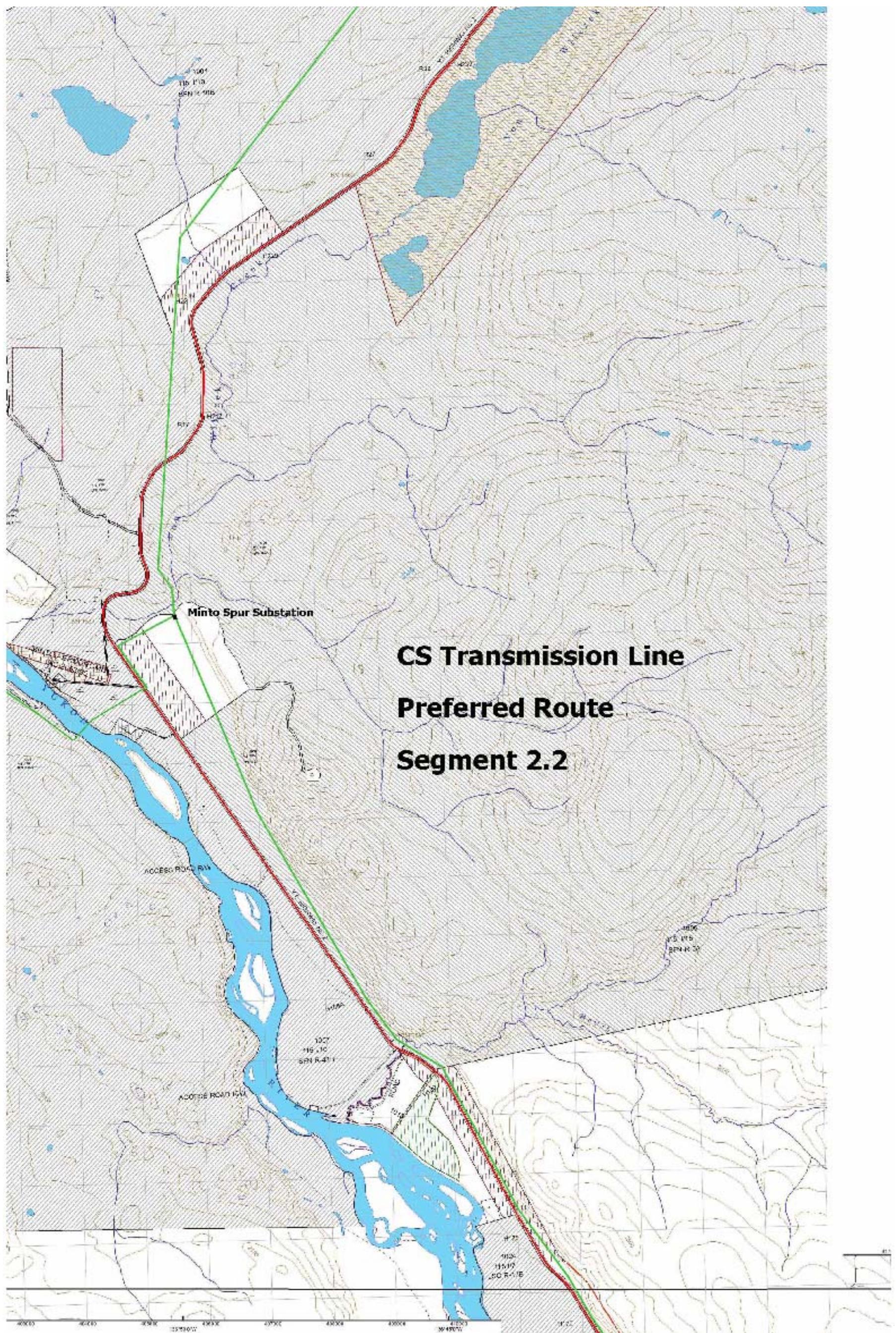
Map 3 Segment 2.1 McGregor Creek to Minto Landing
Map 4 Segment 2.2 Minto Landing to Lhutsaw Wetlands











**YUKON ENERGY CORPORATION
MINTO MINE PPA APPLICATION**

**UTILITIES CONSUMERS' GROUP
(UCG)**

1 **REFERENCE: Rate Base and Impacts to Rate payers**

2

3 **PREAMBLE:** Assuming the Board would agree with all the proposals in this PPA:

4

5 **QUESTION:**

6

7 1. How much does Yukon Energy anticipate to place into the Rate Base for the
8 construction of this project?

9 2. Do you anticipate placing the costs associated with the Minto Mine contribution
10 and spur line into the general rate base?

11 3. How much has the government contributed to this project? Do you anticipate
12 placing this amount into the general rate base? Do you anticipate the need for
13 further government funding for this project?

14 4. How will the 10 cents per kw.hr. charge to Minto or the \$3 million per year take-
15 or-pay cover the capital costs of constructing the C/S Stage 1 line and spur line
16 (yearly Rate Base costs), the cost of borrowing this money, yearly operation and
17 maintenance of this line, and the yearly return to Yukon Energy, especially in the
18 early years as Minto will not be paying any principal?

19 5. Who will pay for cost over-runs or do you anticipate placing this cost into the
20 general rate base?

21 6. How will the present firm Yukon ratepayers be protected from negative impacts
22 on their rates if this C/S Stage 1 project is completed and Minto shuts down
23 temporarily or if the Mine pulls the pin before any or all the Minto Capital costs
24 have been paid?

25

26 **ANSWER:**

27

28 **(1)**

29

30 YEC anticipates that all capital costs for this project will be placed into rate base, less
31 capital cost contributions towards the CS Project provided by Yukon Development
32 Corporation and Yukon Government, and that the Minto Capital Cost Contribution under
33 the PPA will be treated as a customer contribution offsetting the capital costs of the Mine
34 Spur and \$7.2 million of the CS Project capital costs. YEC's current estimates of in-
35 service capital costs¹ for Stage One of the CS Project, net of all contributions, ranges

¹ See footnote 31 in the Application. Assumes in-service in quarter 3 of 2008 and 13% escalation in costs (due to inflation and interest during construction) from 2005\$ estimates in Schedule 1 of Application.

1 from \$10.2 million (mid-point estimate in Schedule 1 of the Application) to \$13.4 million
2 (high-point estimate, as reviewed at page 18 of Application).

3

4 **(2)**

5

6 See response to question 1. The net effect of the anticipated approach is that the
7 customer contribution by Minto will fully offset the capital cost of the Mine Spur.

8

9 **(3)**

10

11 As indicated in Schedule 1 "Summary of Carmacks-Stewart Update Project Economics"
12 on page 4 of the PPA the YTG funds to date have been \$0.45 million. YEC does not
13 anticipate requiring further government funds for Stage One of the CS Project. See
14 response to question 1 for rate base treatment.

15

16 **(4)**

17

18 The PPA provides that Minto will pay 7.5%/year financing cost on all outstanding
19 amounts of the Capital Cost Contribution. The other elements of the Firm Mine Rate
20 payments (average rate in Schedule C of 10 cents per kW.h) as covered by the
21 Minimum Take-or-Pay Amount of \$24 million, or on average \$3 million per year for 8
22 years, will not go towards any portion of the Capital Cost Contribution obligations of
23 Minto, and will be included in the calculation of Mine Net Revenue (see response to
24 YUB-YEC-1-15 for review of Mine Net Revenue Account impacts).

25

26 **(5)**

27

28 As indicated in Section 5.2 of the PPA Minto will pay for the actual capital cost of the
29 Mine Spur, including any overruns, subject only to the Section 3.3. The Capital Cost
30 Contribution of \$7.2 million towards the CS Project is fixed and not subject to adjustment
31 based on actual costs. Any cost overruns will be treated as part of the capital costs of
32 the project (see response to questions 1 and 4 above as to rate base treatment and
33 Mine Net Revenue Account impacts).

34

1
2 (6)
3
4 The Mine Net Revenue Account will address the event of a temporary shutdown and
5 Minto will also still be responsible for providing the Minimum Take-or-Pay Amount
6 (unless pursuant to 12.3 Force Majeure is claimed by Minto with regard to acts or
7 omissions of Government Authorities and the Force Majeure directly results in a material
8 closure of the mine) as well as the ongoing Capital Cost Contribution payments (which
9 includes, from the outset, principal payments on the Mine Spur costs). As regards
10 potential impacts from a material default by Minto and/or premature closure of the Mine,
11 please see response to YUB-YEC-1-32 as well as YUB-YEC-1-34 as to the reasons why
12 YEC has adopted a financing approach for the Capital Cost Contribution by Minto.

1 **REFERENCE: Page 6 Application to Approve Minto Mine PPA**

2
3 The 2008 Firm Mine Rate outlined in Schedule C provides for \$15 kVA per month
4 (demand charge) and \$0.076 per kW.h (energy charge); together these rates equal
5 approximately 10 cents per KW.h for Minto Mine purchase of 32.5 GW.h per year of
6 electricity at a peak annual load of 4.4 kMA. This average rate includes the Demand
7 Charge and Energy Charge rates in the Schedule C Industrial Primary Rate, **without**
8 **consideration of ongoing Fixed Charge provisions relating to ongoing monthly**
9 **payments by Minto (page 7) to confirm that this rate is in full compliance with**
10 **Order-in-Council 1995/90 and that the rate is sufficient to recover forecast 2008**
11 **costs of service to the Major Industrial Customer class** (see Attachment A).

12
13 **QUESTION:**

14
15 1. Please explain fully the portion that is in bold script as in context with the rest of
16 this statement.
17 2. Please confirm that any amount of usage over the \$3 million per year take or pay
18 will be returned to the Mine.

19
20 **ANSWER:**

21
22 (1)

23
24 The bold script is a mixture of footnote 5 from the Application (absent text at page 6) and
25 the first two lines at the top of page 7 of the Application, i.e., these two elements were
26 not written together as one coherent sentence. The footnote simply notes that the 10
27 cent average rate estimate is made prior to including Fixed Charge provisions requiring
28 monthly payments for the Capital Cost Contribution. The quote from page 7 is part of a
29 sentence stating that the Application, in Attachment A, includes evidence to confirm that
30 the Firm Mine Rate complies with OIC 1995/90.

1 **(2)**

2 No, this cannot be confirmed as a general statement. Minto is obligated to pay the full
3 rate on all power purchases in excess of the \$24 million minimum take-or-pay obligation.
4 Examples are provided below to clarify how the take-or-pay provisions are applied:

5

6 (a) If Minto pays \$4 million for its power purchases in year one then Minto is only
7 required, as a minimum, to pay \$2 million in year two to total \$6 million to date
8 (average of \$3 million per year); further, pursuant to Section 6.4 of the PPA,
9 Minto would in this example have no “credit” to apply against purchases in year 2
10 that exceed \$2 million (since Minto made no “take-or-pay” payments under
11 Section 6.2 in year 1), i.e., Minto would be required to pay full amounts for all
12 such added use in that year above the minimum \$2 million amount in this
13 example.

14

15 (b) However, if Minto instead had purchased only \$2 million of power in year 1, it
16 would then be required under Section 6.2 of the PPA to pay an added \$1 million
17 take-or-pay payment for that year; in year 2 Minto in this example would then
18 also still have a minimum take-or pay obligation of the full \$3 million. Under this
19 example, if Minto in fact purchased \$4 million of power in year 2, it could then
20 (under Section 6.4 of the PPA) apply as a credit the \$1 million take-or-pay
21 payment made in year 1.

22

23 (c) Minto can use the credit provisions of Section 6.4 only until the ninth Annual
24 Payment Date. Overall, these credit provisions only enable Minto to apply the
25 \$24 million first to actual power purchases made within the allowed time period.
26 Minto is in no way excused from paying full rates for power purchases in excess
 of the \$24 million.

1 **REFERENCE: Page 6 Application to Approve Minto Mine PPA**

2
3 Section 3.5 of the PPA confirms that the Firm Mine Rate may be amended by the YUB
4 from time to time after 2008. Section 3.5 also provides that, after 2008, if the Firm Mine
5 Rate is increased above the rate provided for in Schedule C by a decision of the YUB
6 that is made on the basis of cost of service principles and methods which are
7 inconsistent with the cost of service principles and methods in Schedule E of the PPA (or
8 the YUB alters the terms and conditions of the PPA), and such increase or alteration
9 materially adversely affects the cost savings to Minto under the PPA, then YEC and
10 Minto will be required to amend the PPA to reduce the Minimum Take-or-Pay Amount to
11 offset the loss of such cost saving to Minto and to amend the YEC Security so that it is
12 no longer provided as continuing security for the Minimum Take-or-Pay Amount under
13 Section 6.2 of the PPA.

14

15 **PREAMBLE:**

16

17 It is the UCG's understanding that Minto will be invoiced the demand charge and the
18 energy charge each monthly like all other customers. At the end of the year, if the \$3
19 million take or pay has been used or surpassed, the Mine account will be settled for that
20 year and the process will repeat for the next 7 years. If for any given year the amount is
21 less than the \$3 Million, the mine will have to make up the difference. If the amount is
22 over \$3 million Minto will be reimbursed this amount.

23

24 **QUESTION:**

25

26 1. Please confirm if this is the correct interpretation of how the Take-or-Pay Account
27 will operate. If not, please explain.

28

29 **ANSWER:**

30

31 Please see UCG-YEC-1-2(2) for an explanation on how the Take-or-Pay Account
32 operates.

1 **REFERENCE: Page 6 Application to Approve Minto Mine PPA 4.1.2 Peak**
2 **Shaving Rate Option**

3
4 The Peak Shaving rate credit is consistent with the cost of service evidence currently
5 available for the Industrial class. Thus, if used, this rate option results in positive
6 outcomes for the customer and all ratepayers.

7
8 **QUESTION:**

9
10 1. Please explain how the Peak Shaving rate credit is consistent with the COS
11 evidence.
12 2. Please explain how this rate option results in a positive outcome for all other
13 ratepayers.

14
15 **ANSWER:**

16
17 **(1)**

18
19 The COS analysis shows that the revenue lost by YEC under the Peak Shaving Credit is
20 less than the COS removed from the Industrial class (see Attachment A to Application,
21 page A-16 – Industrial revenue to cost ratio under maximum potential credit is 102.5%).

22
23 **(2)**

24
25 Peak shaving as indicated in section 4.1.2 “Peak Shaving Rate Option” in the PPA
26 Application “benefits YEC by lowering the need to plan for and run peaking diesels”
27 (Page 7). Impacts on diesel operation due to the PPA will initially affect only the Mine
28 Net Revenue Account; however, in the longer-term, savings to this account will be to the
29 benefit of all other ratepayers.

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 8; 4.1.3 Low**
2 **Grade Ore Processing Secondary Energy Rate**

3

4 • Secondary Energy under this rate is to be used only at a mine site engaged
5 primarily in copper production for processing ore with less than 1% copper
6 content ("Low Grade Ore"), and the customer will provide YEC with auditable
7 reporting and controls as reasonably required by YEC to confirm that this
8 secondary energy has been used only to process Low Grade Ore (any such
9 energy use that is not so confirmed will be charged at the Industrial Primary
10 Rate).
11 • The customer is also to provide reporting as is reasonably required by YEC to
12 determine which portion of its recorded Demand and Energy in any billing month
13 relates to such secondary energy use (any such Demand or Energy use that is
14 not so confirmed will be charged at the Industrial Primary Rate) 9.
15 • Section 4.1(b) of the PPA provides maximum annual use levels by Minto of
16 Secondary Mine Processing Energy Electricity (including, until June 30, 2015 or
17 when the Capital Cost Contribution plus accrued interest is fully paid (whichever
18 is earlier), a maximum annual use limited to permitted use in excess of 32
19 GW.h/year) 10. Secondary Energy in this instance will be used to process Low
20 Grade Ore in the same processing equipment used to process high grade ore
21 with Mine Firm Electricity; thus, unlike rate Schedule 32 Secondary Energy, this
22 Rate Schedule 35 energy will not be separately metered from firm energy
23 supplied by YEC. However, metering of the relevant processing equipment
24 would at least allow for separating this processing use of electricity from other
25 uses at the Mine Site.

26

27 **PREAMBLE:**

28

29 As is stated in a later IR, UCG is concerned with the protocol of this portion of the
30 agreement. It was never brought forward in the Resource Plan proceeding to allow
31 proper questioning and cross examination. Confusing messages are being sent in this
32 application as well, i.e. will the Secondary Rate only be used at the tail end of the mine
33 life when all high grade ore is utilized or the above statement which seems to say the
34 Mine can go on Secondary Energy at any time they so wish to process ore with less than
35 1% copper content.

1
2 **QUESTION:**
3

4 1. Why was providing secondary power to Minto Mine or industry not brought
5 forward in the Yukon Energy 20 Year Resource Plan proceeding?
6 2. Does this agreement give Minto the right to process low grade ore at any time
7 they so wish as it appears to say above and on the next page of this application?
8 3. Since this secondary energy usage will not be separately metered, what exactly
9 would be the auditable reporting and controls to be implemented by Yukon
10 Energy to ensure the Mine would be complying?

11
12 **ANSWER:**
13

14 (1)
15
16 Providing secondary power to the Mine was not brought forward in the Yukon Energy 20
17 Year Resource Plan proceeding because it had not been discussed in negotiation with
18 Minto at that time.

19
20 (2)
21
22 Minto can process Low Grade Ore anytime – the issue is when and to what extent they
23 can have access to Low Grade Ore Processing Secondary Energy under Rate Schedule
24 35 for processing such Low Grade Ore. In general, subject to the conditions set out in
25 Rate Schedule 35, Minto can have access to Rate Schedule 35 at any time subject to
26 certain upper limits on its use in the initial years.

27
28 (a) The last paragraph at page 8 of the Application notes that Section 4.1(b) of the
29 PPA “provides maximum annual use levels by Minto of Secondary Mine
30 Processing Energy Electricity (including, until June 30, 2015 or when the Capital
31 Cost Contribution plus accrued interest is fully paid (whichever is earlier), a
32 maximum annual use limited to permitted use in excess of 32 GW.h/year).”¹
33 (b) Footnote 10 explains the limits that apply for remaining years of the Mine Life.

¹ Footnote 11 at page 9 of the Application is in error on this point and should be disregarded in its entirety.

Yukon Energy Corporation
Minto Mine PPA Application
UCG-YEC-1-5

1 **(3)**

2

3 See YUB-YEC-1-11(2)

1 **REFERENCE: Application to Approve Minto Mine PPA; Page 10;**
2
3 Attachment B indicates that bringing Aishihik 3rd Turbine on line mitigates this situation
4 by reducing diesel generation costs and extending secondary sales opportunities, e.g.,
5 baseload diesel generation required in 2016 is reduced to 1.8 GW.h (2016) with the 32.5
6 GW.h/year Minto Mine load and 6.6 GW.h/year (2015) with the 42 GW.h Minto Mine
7 load. Bringing Aishihik 3rd Turbine on earlier (2010 as compared with 2013) is shown to
8 result in slightly increased economic savings as regards diesel generation costs and
9 secondary sales revenues 12.

10
11 **PREAMBLE:**
12

13 It appears to the UCG from the statement above and as we stated in the 20 year
14 Resource Plan hearing, that bringing Aishihik 3 into service will be of benefit to the
15 Mines and Secondary Power users.

16
17 **QUESTION:**
18

- 19 1. Please indicate how Yukon Energy will protect the interests of firm energy
20 ratepayers from the impacts of Aishihik 3 construction which will clearly benefit
21 industrial and secondary users of energy.
- 22 2. Please confirm that YEC intends to hold a review of the Aishihik 3 proposal
23 before construction.

24
25 **ANSWER:**
26

27 (1)
28

29 The YUB January 15, 2007 Report re: the 20-Year Resource Plan at page 30 in effect
30 recommends that the Aishihik 3rd Turbine proceed for in service in 2013 "unless YEC
31 can justify an earlier in-service date". To the extent that Aishihik 3rd Turbine is
32 accelerated due solely to the PPA and the CS/MS Project, the incremental increase in
33 expenses and return on rate base related to such accelerated development would be
34 included as Incremental YEC Costs in the determination of Mine Net Revenue and, as
35 such, would not affect rate schedules for other rate classes until this account is used to
36 reduce rates.

37

1 **(2)**

2

3 YEC supports the YUB January 15, 2007 Report recommendation, on page 41, for a
4 brief YUB proceeding to review timing of the Aishihik 3rd Turbine project if YEC would
5 like to proceed with an in-service date before 2013 (for economic reasons).

1 **REFERENCE: Application to Approve Minto Mine PPA; Page 10 4.2.2 Diesel**
2 **Units at the Mine**

3

4 The PPA requires YUB approval of provisions respecting the YEC purchase of the four
5 Diesel Units (each with a continuous rating of at least 1.6 MW) as set out under Part 10
6 of the PPA for \$2.24 million 13, with YEC to provide payments to Minto in this regard on
7 the same basis as Minto's Mine Spur Capital Cost Contribution payments, i.e., in equal
8 blended monthly payments of interest and principal over the first seven years of YEC
9 service.

10

11 **PREAMBLE:**

12

13 The UCG remembers that a similar situation occurred with the Faro mine a number of
14 years ago; Yukon Energy paid the Faro mine for services when they should have used
15 this as collateral, and as the result Faro turned around and left a debt of over \$3 million
16 for energy used.

17

18 **QUESTION:**

19

- 20 1. Please explain why Yukon Energy should pay anything to Minto for these
21 gensets until after the Mine has paid all its debts to YEC for construction of the
22 lines i.e. hold these gensets as a small portion of collateral on the mine debt?
- 23 2. Is there a real need for Yukon Energy to purchase these diesel units? Please
24 explain.

25

26 **ANSWER:**

27

28 **(1)**

29

30 Under the PPA, Minto is obligated under section 10.3 to make any payments payable
31 under the Cat Leases, as well as to pay any amounts required to be paid on the
32 termination or expiry of the Cat Leases, in order for YEC to acquire title to the Diesel
33 Units from Caterpillar, free and clear of all liens, charges and encumbrances on or
34 before September 6, 2009.

35

36 In consideration for the assignment of the Cat Leases YEC will provide monthly
37 payments to Minto for the Diesel Units on the same basis as Minto's Mine Spur Capital

1 Cost Contribution payments, e.g., in equal blended monthly payments of interest and
2 principal over the first seven years of YEC service (unless otherwise provided for in the
3 PPA). YEC will be paying for the Diesel Units as Minto pays the costs of the Mine Spur
4 and on the same general terms as the Mine Spur costs are paid off. These purchase
5 payment arrangements for the asset will enhance YEC's security with regard to Minto's
6 obligations to pay the Mine Spur Capital Cost Contribution.

7

8 **(2)**

9

10 Please see response to YUB-YEC-1-8(1) and (2).

1 **REFERENCE:** **Application to Approve Minto Mine PPA; Page 11**
2

3 5.0 PROTECTION FOR RATEPAYERS OVER THE LONGER TERM
4

5 5.1 NO ADVERSE IMPACT ON RATEPAYERS
6

7 As stated in the PPA, it is the Parties' intention that the costs of the Transmission Project
8 required to provide Grid Electricity to the Mine will not adversely impact other ratepayers
9 in Yukon. Accordingly, the PPA ensures that there is "no net cost to Yukon ratepayers",
10 and further, that no individual ratepayer will see an increase to their rates due to the
11 Transmission Project.

12 **QUESTION:**
13

14

- 15 1. Please explain how this portion of the PPA gives Minto Mine the responsibility to
16 ensure there is no negative impact to ratepayers.
- 17 2. What guarantees are in this PPA besides the YEC Security, which is second to
18 the Banks, to ensure that Minto will pay at least the required \$24 million Take or
19 Pay?

20 **ANSWER:**
21

22 (1)

23 Minto is not responsible for ensuring no negative impact on ratepayers. The PPA sets
24 out a joint intent of Minto and YEC, and includes provisions to address this intent, e.g.,
25 the Firm Mine Rate, the Capital Cost Contribution, the Minimum Take-or-Pay Amounts,
26 the Mine Net Revenue Account and the YEC Security. Please also see response to
27 YUB-YEC-1-32.

28 (2)

29 The PPA does not provide "guarantees" beyond the provisions of the contract, the YEC
30 Security backing the Minto commitments, and the fundamental interest in the owners (or
31 those in control) of the Mine securing ongoing use of Grid Electricity to avoid the higher
32 cost use of diesel generation to mine and process the recoverable ore at the Mine.
33 Subject to the due diligence, YEC notes that the Current Bank Financing plus the recent

Yukon Energy Corporation
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- 1 \$40 million BMO financing (that is subordinate to the YEC Security) confirm a
- 2 reasonable basis for YEC to proceed. Please also see response to YUB-YEC-1-34.

1 **REFERENCE: Application to Approve Minto Mine PPA Page 12; YEC Security**

2

3 • Minto will provide YEC with acceptable security (the “YEC Security”) for the
4 payment of the Capital Cost Contribution, the Minto Power Bills the Minimum
5 Take-or-Pay Amount, the Decommissioning Cost Payment, and certain other
6 obligations; the YEC Security will be discharged only when the Capital Cost
7 Contribution, Decommissioning Cost Payment, and Minimum Take-or-Pay
8 Amount have been paid in full.

9 • YEC will establish a deferral account (the “Mine Net Revenue Account”) to
10 ensure that incremental annual Mine Net Revenues (or net costs) do not affect
11 YEC earnings or the determination of the revenue requirements affecting other
12 ratepayers in Yukon.

13 • Upon commencement of delivery, YEC will acquire four 1.6 MW trailer mounted
14 Diesel Units from Minto which will help to provide added security and also
15 provide opportunities to minimize WAF system costs under certain
16 circumstances.

17 • Minto is fully responsible for all Decommissioning Costs for the Mine Spur; these
18 costs are to be provided for initially out of the Accrued Decommissioning Fund
19 established to set aside an amount equal to 25% of the actual capital costs of the
20 Mine Spur.

21 • YEC is to conduct comprehensive due diligence with regard to the YEC Security,
22 Minto and the Mine.

23

24 **QUESTION:**

25

26 1. What good is YEC collateral security if the Mine only has sufficient assets to pay
27 the Banks that are first in line?

28 2. What make up the incremental annual revenues or losses for this deferral
29 account?

30 3. How will the acquiring of the diesel units add security if the YEC is paying for
31 them rather than using them as collateral?

32 4. If Minto goes bankrupt or pull the pin how will they be held responsible for
33 decommissioning costs?

34 5. Should not the Board and all interveners know the outcome of this Minto due
35 diligence report before attempting to make any decision? Please explain.

1 **ANSWER:**

2 **(1)**

3 YEC does not understand that the Mine only has sufficient assets to pay the Banks that
4 are first in line – if YEC thought this to be the case, it would not have negotiated the
5 PPA. Please also see response to YUB-YEC-34.

6
7 Minto's security interest is only expected to be second in line to the Macquarie Bank for
8 the first few years of the Mine's life. Under section 6.6 YEC has negotiated covenants
9 with Minto in order to ensure that the amounts owing under the Current Bank Financing
10 are paid off on or before November 30, 2009 for the PLF Agreement (the recent BMO
11 \$40 million financing, which is subordinate to the YEC Security, will now displace Minto
12 use of the SLF Agreement financing).

13
14 Further, pursuant to section 6.6 (c) Minto has covenanted with YEC that Minto will not
15 permit the amount of principal outstanding under the Current Bank Financing to exceed
16 the following thresholds:

17
18 (i) in the case of the PLF Agreement by more than \$5,000,000 (USD) the
19 \$57,788,051 in total commitments made under the PLF Agreement, provided
20 such \$5,000,000 may not be borrowed by Minto later than 90 days after the
21 Commercial Operation Date;
22 (ii) \$20,000,000 (CND) for the SLF Agreement; and
23 (iii) \$20,000,000(USD) for the MRI Agreement.

24
25 Minto has also provided the following covenants to YEC (in all of these cases YEC
26 consent is not to be unreasonably withheld):

27
28

- That it will not extend the maturity date for the facility under the PLF Agreement
29 or the facility under the SLF Agreement by more than 6 months beyond the
30 maturity date currently provided for in each such agreement, respectively, without
31 the written consent of YEC.
- That it will not use any principal amount borrowed by Minto under the PLF
32 Agreement or the SLF Agreement on the development of any mineral interests
33 located outside the boundaries of the area comprised of the mineral claims more

1 particularly set out in Schedule 3 to the YEC Security without the written
2 consents of YEC.

3 • That it will not agree to a change in the interest rates currently provided for in the
4 Current Bank Financing without the written consent of YEC.

5
6 **(2)**

7
8 Examples as to the elements involved in this account are provided in Attachment C to
9 the Application. The details of the PPA in this regard are reviewed below.

10
11 Under section 3.6, YEC will in each fiscal year prior to the discharge of the YEC
12 Security, and thereafter as the YUB may determine until the Commercial Operation
13 Cessation Date, determine the Mine Net Revenue as the amount equal to the Minto
14 Power Bills in that fiscal year plus and Take or Pay Amount under section 6.2 paid in
15 that fiscal year, less the Incremental YEC Costs in that fiscal year.

16
17 The Incremental YEC Costs are defined in the PPA as in any fiscal year, the incremental
18 YEC expenses and return on rate base in that fiscal year, if any, as reasonably
19 estimated by YEC, on a consistent basis from year to year, due to the supply of Grid
20 Electricity to Minto by YEC, including, without limitation:

21
22 (i) any such incremental increase in expenses in that fiscal year related to
23 incremental interest costs on the Flexible Term Note and incremental diesel
24 generation expenses based on actual diesel fuel prices and long-term average
25 water flows for hydroelectric generation; plus
26 (ii) any such incremental loss of income in that fiscal year related to displaced
27 interruptible secondary Electric Energy sales to other YEC customers for space
28 or process heating; plus
29 (iii) any depreciation, operating, and maintenance expenses, and return on rate base
30 in that fiscal year related to the Transmission Project, the CS Project facilities, or
31 the Diesel Units during the time period, if any, that the Diesel Units are owned by
32 YEC; plus
33 (iv) any such incremental increases in expenses and return on rate base in that fiscal
34 year related to accelerated development of other YEC generation projects to
35 displace diesel generation that would otherwise have been related to the supply
36 of Grid Electricity to Minto by YEC; for greater certainty, no such incremental
37 amount will be estimated for any such generation project after the date when it is

1 reasonably estimated by YEC that the generation project would have been in
2 service without the need for YEC to supply Grid Electricity to Minto.

3

4 **(3)**

5

6 YEC is purchasing the Diesel Units at the Mine at a cost of up to \$2.24 million and these
7 trailer mounted diesel generation assets will provide YEC with added security as to the
8 recovery of the Minto customer contributions related to the Mine Spur. For further
9 discussion please refer to UCG-YEC-1-7. Benefits of these diesel units to YEC and to
10 YEC ratepayers are further detailed in YUB-YEC-1-8.

11

12 **(4)**

13

14 Under Section 11 of the PPA, YEC will establish an Accrued Decommissioning Fund
15 account and Minto will make a Decommissioning Cost Payment of \$850,000, as
16 adjusted under section 11.2 (c) to reflect the actual Minto Spur Capital Costs. This
17 payment is one of the Minto obligations covered by the YEC Security, i.e., YEC rights
18 under this security will not end until this amount is paid, and will continue if Minto
19 defaults¹. This amount will be deposited in the Accrued Decommissioning Fund and YEC
20 will invest the Accrued Decommissioning Fund at 6.5% per annum. The Parties intend
21 that within three years after payment the invested Accrued Decommissioning Fund will
22 equal the Estimated Decommissioning Costs.

23

24 The Decommissioning Cost Payment will be made (i) when Minto pays the outstanding
25 balance of the Capital Cost Contribution under Section 5.2(d) at the end of the fourth
26 year of service by YEC; or (ii) within 180 days after Minto otherwise pays the outstanding
27 balance of the Capital Cost Contribution; or (iii) on or before the date on which Minto
28 provides notice of the Commercial Operation Cessation Date.

29

30 **(5)**

31

32 Information on due diligence is provided in YUB-YEC-1-29.

¹ See response to YUB-YEC-1-32 for a general review of implications of a default by Minto.

1 **REFERENCE: Application to Approve Minto Mine PPA Page 13; Costs vs.**
2 **Revenues**

4 • Mine Spur Capital Cost Contribution to be paid in equal blended monthly
5 payments of interest at 7.5% per year and principal over the first seven years of
6 YEC service. At the date of the Agreement the Capital Costs of the Mine Spur
7 are estimated at \$3.83 million; however, as provided in Section 5.1 of the PPA,
8 within 30 days of the Transmission Project Start Date YEC will provide Minto with
9 a revised estimated based upon received tenders.

10 • Carmacks-Minto Landing Capital Cost Contribution (CS Project contribution) of
11 \$7.2 million 17 to be paid in equal monthly payments of interest at 7.5% per year
12 for the first four years of YEC service, and in equal blended monthly payments of
13 interest and principal over the next three years of YEC service. It is anticipated
14 that the total Capital Cost Contribution will be fully paid off within seven years
15 from the commencement of delivery to the Mine by YEC. The PPA provides,
16 however, for acceleration or extension of this timing under various
17 circumstances.

18 • Minto is fully responsible for all Decommissioning Costs for the Mine Spur; these
19 costs are to be provided for initially out of the Accrued Decommissioning Fund
20 established to set aside an amount equal to 25% of the actual capital costs of the
21 Mine Spur.

22 **QUESTION:**

25 1. Given the above costs for the construction, plus the cost of borrowing this
26 money, plus the operation & maintenance costs of the line and providing energy
27 to the mine site plus Yukon Energy's return plus other possible unforeseen costs,
28 how does the PPA cover all of these costs through revenues charged to the
29 Minto Mine to satisfy UCG that there will not be any negative impact on other firm
30 rate payers?

31 **ANSWER:**

33 34 See answers to UCG-YEC-1-1 (1) to (6) and YUB-YEC-1-34.

1 **REFERENCE: Application to Approve Minto Mine PPA Page 13;**

2

3 • Under Part 5 of the PPA, YEC will require New YEC Industrial Customers (i.e., a
4 YEC Major Industrial Customer other than Minto (e.g., Carmacks Copper) that
5 receives Electricity through connection with the Transmission Project or the CS
6 Project) to pay customer contributions for their share of capital costs for the CS
7 Project and any spur lines on a similar basis to the Capital Cost Contribution
8 payable by Minto19.

9

10 **PREAMBLE:**

11

12 It appears from this statement that you are requesting the Board to grace such a plan for
13 further industrial customer contribution without the qualifications or contract from any
14 other industrial customer. Also UCG understands you wish to isolate industrial
15 customers when setting a rate for each particular mine.

16

17 **QUESTION:**

18

19 1. Is Yukon Energy saying that they will not entertain any other industrial customer
20 on this line without an agreement to contribute their share of the capital cost of
21 not only the C/S line Stage 1, but also the C/S line Stage 2 as well as full costs
22 for any spur line? Please explain.

23 2. Does Yukon Energy concur that a set industrial rate for the Minto Mine will set a
24 precedent for all other industrial customers? Please explain.

25 3. Does Yukon Energy rationalize that they can isolate an industrial customer rate
26 as they have done with Minto Resources? Please explain.

27

28 **ANSWER:**

29

30 **(1)**

31

32 Generally, YEC is obligated under the PPA to secure such an agreement with any new
33 industrial customer of either Stage One or Stage Two of the CS Project.

1 Section 5.7 of the PPA provides that New YEC Industrial Customers¹, as defined in the
2 PPA, will be required by YEC to pay a Capital Cost Contribution for their appropriate
3 share of Capital Costs of the CS Project and any spur lines. The contribution to the
4 Capital Costs incurred by YEC assigned to a New YEC Industrial Customer for the CS
5 Project would be “based on the segment and voltage level of a transmission line that
6 each New YEC Industrial Customer would required to receive Electricity in the absence
7 of the Transmission Project or the CS Project.” Accordingly, the share of CS Project
8 costs may or may not involve consideration of Stage Two CS Project costs, as
9 determined by the circumstances. See also response to YUB-YEC-1-7.

10

11 **(2) and (3)**

12

13 The Firm Mine Rate is not “set” for the life of the Minto Mine, nor is it applicable only to
14 the Minto Mine. The PPA will, however, provide a guide for arrangements with future
15 industrial customers.

16

17 The Firm Mine Rate has been determined in the PPA only for 2008, and is subject to
18 adjustment thereafter by the YUB. (see also response to YUB-YEC-1-16) Further, this
19 rate is intended to apply to all Industrial customers – and is intended to be adjusted as
20 required from time to time to recover COS for the Major Industrial Customer class as it
21 may evolve in future to include mine customers in addition to Minto.

22

23 YEC does not agree that it has isolated Minto as one industrial customer as regards the
24 Firm Mine Rate.

¹ This definition includes such a customer “receiving Grid Electricity from the Transmission Project of the CS Project.” As defined in the PPA, the CS Project includes the full project from Carmacks to Stewart Crossing to connect the WAF and MD grids.

1 **REFERENCE: Application to Approve Minto Mine PPA Page 14**

2
3 Section 5.2(d) ensures that the above Capital Costs payment schedule set out under
4 Section 5.2(a) and b), and detailed above, is dependant upon Minto providing
5 satisfactory documentation to YEC by December 31, 2008 of Minto's ability and
6 commitment to process Additional Reserves and to extend the Mine life as stipulated. If
7 Minto does not provide satisfactory documentation to YEC that supports an ability to
8 continue such operations as stipulated then YEC may require Minto to pay off the
9 balance of its Capital Cost Contribution on the earlier of either the fourth annual
10 Payment Date or by December 31, 2013.

11

12 **QUESTION:**

13

14 1. Is not "may require" in a contract not enforceable? Please explain.

15

16 **ANSWER:**

17

18 "May require" means that it is fully within YEC's discretion as to whether it will or will not
19 require Minto to pay off the balance of its Capital Cost Contribution on the fourth Annual
20 Payment Date or by December 31, 2013. Such discretion does not diminish YEC's
21 ability to enforce this provision if it deems it necessary.

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 14;**
2 **5.1.2 Mine Net Revenue Account**

3
4 The PPA requires YUB approval of the provisions respecting the Mine Net Revenue
5 Account as set out in Section 3.6 of the PPA. This deferral account, which continues to
6 address annual Mine Net Revenue at least for so long as Minto continues to provide the
7 YEC Security 21, is one of the key measures to ensure that there are no adverse rate
8 impacts on other ratepayers in Yukon due to the PPA. Mine Net Revenue in each fiscal
9 year will be assigned to the Mine Net Revenue Account and will not form part of YEC's
10 earnings in that year. Page 15 In essence, during any fiscal year prior to the cessation
11 of commercial operations at the Mine Site, any net impacts on YEC's earnings due to the
12 Mine or due to the CS Project can be assigned to this deferral account and consequently
13 not be considered when assessing the rate requirements applicable to other ratepayers.
14 These provisions under Section 3.6 of the Agreement set aside positive net incremental
15 earnings due.

16
17 **QUESTION:**

18
19 1. Please confirm that this Net Revenue Account will absolutely protect firm
20 ratepayers from negative rate impacts that may result from the construction of
21 the C/S line or this PPA. Explain.

22
23 **ANSWER:**

24
25 The Mine Net Revenue Account is one of a suite of measures (including, Minimum Take-
26 or-Pay, YEC Security, Decommissioning Costs, Capital Cost Contributions) designed to
27 help ensure that there will be no adverse impact on ratepayers due to the PPA. Even so,
28 as reviewed in response to YUB-YEC-1-32 and YUB-YEC-1-14, the PPA unfortunately
29 cannot and does not provide "absolute" protection against all risks.

30
31 Please see response to YUB-YEC-1-6 and YUB-YEC-1-15 for an explanation of how the
32 Mine Net Revenue Account will operate to protect ratepayers and YUB-YEC-1-34 as
33 regards Capital Cost Contribution financing risk assessment.

1 **REFERENCE: Application to Approve Minto Mine PPA; Page 14;**
2 **5.1.3 Minimum Take-or-Pay Contract**

3
4 Section 6.2 provides that, within the first eight years of YEC service and subject to
5 Sections 3.5 and 6.3, Minto will pay YEC a minimum aggregate amount of \$24 million for
6 Grid Electricity regardless of the amount of Grid Electricity actually delivered by YEC or
7 consumed by Minto; provisions are also included during this eight year period for
8 minimum cumulative annual payments averaging \$3 million per year.

9
10 **QUESTION:**

11
12 1. Please qualify this statement (i.e., is Minto being charged only \$3 million per year
13 regardless if they use in excess of this amount in the 12 month billing period for
14 the number of kw. hrs. used at approximately 10 cents per kw.hr.?)

15
16 **ANSWER:**

17
18 No. The take-or-pay is a minimum amount payable each year for Grid Electricity
19 regardless of the amount of Grid Electricity actually delivered by YEC or consumed by
20 Minto. See response to UCG-YEC-1-2 and UCG-YEC-1-3.

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 14**

2
3 The stipulated YUB decisions either (a) increase the Firm Mine Rate (after the PPA is
4 approved) by a decision made on the basis of cost of service principles and methods
5 which are inconsistent with the cost of service principles and methods in Schedule E of
6 the PPA, or (b) alter the terms and conditions of the PPA.

7
8 **QUESTION:**

9
10 1. Who stipulates the cost of service methodology, Yukon Energy or the Board?
11 Explain.

12
13 **ANSWER:**

14
15 The Board alone has the power to set rates and determine cost of service methods used
16 for rate setting purposes pursuant to its constituent legislation and regulations.

17
18 In setting out the cost of service principles and methods in Schedule E YEC has not
19 attempted to "stipulate a cost of service methodology", but is merely distilling and
20 restating the key cost of service principles and methods reflected in OIC 1995/90, past
21 decisions of the Board based on OIC 1995/90 with regard to rates charged to Faro mine
22 and cost of service assessments regarding such rates and the Major Industrial Customer
23 class, and specific requirements consistent with such past principles and methods as are
24 needed to address the current circumstances related to the PPA and the mine.

25
26 Please see response to YUB-YEC-1-16.

1 **REFERENCE: YEC PPA Approval Application; Page 16 YEC**

2
3 The YEC Security is expected to be enhanced by the new C \$45 million debenture
4 financing announced February 8, 2007 that will replace the SLF debt included in the
5 Current Bank Financing, as continuing security for the payment of the Capital Cost
6 Contribution plus accrued interest, the Minto Power Bills, the minimum take-or pay
7 obligations, the Decommissioning Cost Payment, and Minto payments to Caterpillar
8 related to the Cat Leases after these leases are assigned to YEC. Further, Page 19:
9 The Current Bank Financing of senior and subordinated debt that Minto has secured
10 with Maquarie Bank Limited 34 for approximately \$85 million is covenanted by Minto in
11 the PPA to be fully repaid by November 30, 2010, i.e., within a period just over the
12 planned initial two years of YEC service to the Mine. After the Maquarie financing has
13 been repaid, YEC 33 Minto has announced promising results from drilling of Area 2
14 adjacent to the mine. Minto's plans anticipate confirmation during 2007 of material
15 additional high grade reserves 34. The balance of the Current Bank Financing as
16 provided by MRI Trading AG of Switzerland is the Copper Concentrate revolving
17 inventory finance facility in the principal amount of up to \$20 million (USD).

18

19 **QUESTION:**

20

21 1. Who is this \$45 million debenture financing with and will they become another
22 bank financing in front of Yukon Energy in Minto collateral?

23

24 **ANSWER:**

25

26 Sherwood Copper Corporation has entered into an agreement with a syndicate of
27 underwriters led by BMO Capital Markets. The debenture financing would operate to
28 reduce the total amount of bank financing and would be subordinate to (not be a charge
29 in front of) the YEC Security. This financing was completed on November 28, 2007.

30

31 According to a Sherwood Copper Press Release dated February 8, 2007, it is
32 anticipated that the net proceeds of the financings will be used to complete the
33 development of Sherwood's high-grade Minto copper-gold project in the Yukon, to
34 accelerate the Phase 2 expansion to 2,400 metric tpd ahead of the previous schedule, to
35 continue the aggressive exploration of the Minto property for additional high grade
36 reserves, and for general corporate purposes. On completion of these financings,

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- 1 Sherwood intends to cancel the \$20 million subordinated debt facility announced
- 2 October 17, 2006, reducing the level of bank debt.

1 **REFERENCE: YEC PPA Approval Application; Page 18 5.2 RISKS**

2
3 YEC's service to the Mine is targeted to start by September 30, 2008. Based on the
4 assumed 10 year Mine life and the target in-service date for YEC service, YEC power
5 sales to the mine at about 32 GW.h/year would be expected to continue for
6 approximately 9 years. Minto's Take-or-Pay commitment of \$24 million in effect reflects
7 a minimum cumulative purchase of \$3 million per year (30 GW.h/year at the initial firm
8 rate of 10 cents/kW.h) for 8 years.

9
10 **PREAMBLE:**

11
12 The UCG recognizes that the Minto Mine wants some type of set stabilized rate for
13 longevity as do all Yukon ratepayers; we also know that the Board is legislated to make
14 certain the industrial customer pays 100% of the cost to provide service.

15
16 **QUESTION:**

17
18 1. How can the YEC rationalize a firm Cost of Service to the mine @ approximately
19 10 cents Kw/hr. for 8 years when due diligence has not been undertaken to
20 assure what is enshrined by legislative order i.e. a full review of the Cost of
21 Service for all ratepayers in the Yukon will not take place until October 2007?
22 2. Is this request a temporary rate request until a firm rate can be qualified by a
23 proper undertaking by the Board? Explain.

24
25 **ANSWER:**

26
27 **(1)**

28
29 The PPA does not do what this question suggests. Please see answer to UCG-YEC-1-
30 11(2) which addresses the central point and (3) as well as YUB-YEC-10 and 20, 21, 23,
31 24, 25 and 26 which address COS issues.

32
33 **(2)**

34
35 YUB approval of the Firm Mine Rate as set out in Schedule C of the PPA is sought for
36 initial YEC delivery of Electricity to Minto in 2008. The Board is asked to approve a Firm
37 Rate for the mine, not a temporary or interim rate, and comprehensive evidence has

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1 been provided as needed. As reviewed in response to (1), the PPA provides for the YUB
2 adjustment of this rate after 2008 if and when such adjustment is needed or appropriate.

1 **REFERENCE: YEC PPA Approval Application; Page 18**

2
3 Minto's commitment is also to pay fully by the end of the seventh year of YEC power
4 sales (i.e., two years prior to the end of the expected Mine life) the Capital Cost
5 Contribution (interest and principal) for the Mine Spur and the \$7.2 contribution to the CS
6 Project. By the end of the 7 years of service, the Minto Take-or-Pay commitments will
7 equal at least \$21 million, i.e., an amount well in excess of the net CS Project Stage One
8 high remaining net capital cost estimate of \$13.4 million.

9
10 **PREAMBLE:**

11
12 The UCG is concerned with the clause about take-or-pay commitment may sound like a
13 good thing, but in reality there seems to be no commitment by Minto in this PPA to pay
14 their monthly bill for both demand and energy charge (together approx. 10 cents per kw.
15 hr.) like all other ratepayers must do.

16
17 **QUESTION:**

18
19 1. Where in the agreement does it state that Minto Mine will pay their monthly bill or
20 will face cut-off of service as is the policy with all other ratepayers? Please
21 explain.

22
23 **ANSWER:**

24
25 Section 4.7 of the PPA sets out that the Electric Service Regulations (**ESRs**) apply to
26 YEC and to Minto with regard to Electricity delivered by YEC to Minto under the PPA
27 including, without limitation, the provision regarding the responsibility and liability of each
28 party. Section 11.3 of the ESRs provides that the company may terminate a customer's
29 service if "the customer neglects or refuses to pay the charges for service due to the
30 Company within 30 days of the date the bill for such service was rendered." This
31 provision is also recognized in Section 3.1 of the Direct Agreement between Minto, YEC
32 and Macquarie Bank (see response to YUB-YEC-1-32 regarding provisions of the Direct
33 Agreement affecting timing of termination so along as Macquarie Current Bank
34 Financing remains). Section 6.9 of the PPA also makes Minto subject to the Service
35 Charge on any Minto Power Bills from the due date of payment (15 Business Days after
36 date of delivery of the bill to Minto) until payment is made in full.

1 **REFERENCE: YEC PPA Approval Application; Page 18**

2
3 Under the above assumptions, the Mine will have stock piled but not processed most of
4 the Low Grade Ore reserves mined in association with the high grade reserves; these
5 low grade reserves may potentially be processed after the assumed 10 year Mine life
6 (thereby adding to the effective length of time for YEC power sales at the assumed
7 annual energy use levels). Further, Page 19 Risk that Mine life may be only 7.2 years
8 with today's high grade reserves: Based on current announced Mine plans, the Mine
9 today has sufficient high grade ore reserves to operate for six years at the power levels
10 assumed in YEC's current forecasts, i.e., if the Mine starts commercial operations in
11 June 2007, it would be expected to continue such operations using high grade reserves
12 until June 2013, and (based on the current Mine plan) then to process some of the
13 stockpiled Low Grade Ore for 1.2 years until at least September 2014. Based on current
14 Mine plans and the target in-service date for YEC service, YEC power sales to the Mine
15 at about 32 GW.h/year would be expected to continue for approximately 6 years based
16 on today's established high grade ore reserves.

17
18 **PREAMBLE:**

19
20 For the UCG this again all sounds good for the longevity of the Mine life and increased
21 sales of energy, but in reality we are getting mixed messages as to the processing of the
22 low grade ore protocol.

23
24 **QUESTION:**

25
26 1. Is the mandate of this PPA to allow low grade ore only be processed after the 10
27 year Mine life or whenever Minto decides to use secondary power to process this
28 ore as seems to be the message in other areas of this agreement?
29
30 2. If an industrial secondary energy rate is allowed by the Board, how will the Yukon
31 Energy make assurances that Minto is using secondary power to process only
32 low grade ore, if this is not done at the back end of the mine life or in isolation i.e.
when all the high grade ore has been processed?

1 **ANSWER:**

2

3 **(1)**

4

5 See response to UCG-YEC-1-5(2). The PPA does not specifically mandate that the Low
6 Grade Ore will only be processed after the 10 year mine life.

7

8 **(2)**

9

10 Please see response to YUB-YEC-1-11(2).

11

12 The rate will only apply when reporting as reasonably required by YEC can be
13 established to confirm or determine what is secondary energy as distinct from firm
14 energy under the Firm Mine Rate and further to confirm that all such secondary energy
15 has been used only to process Low Grade Ore. Failing to provide such reporting as
16 reasonably required by YEC, all energy use will be charged at the Firm Mine Rate.

1 **REFERENCE: YEC PPA Approval Application; Page 20**

2
3 There is not expected to be any material ratepayer impacts from temporary shutdowns
4 of the Minto Mine and, until the YEC Security is discharged, the Mine would remain
5 liable under the PPA for its Capital Cost Contribution, and Minimum Take-or-Pay
6 Amount and Decommissioning Cost Payment as noted above (as well as any minimum
7 bill payments under the Firm Mine Rate)

8
9 **PREAMBLE:**

10
11 As Yukon Energy continually states that there will be no adverse ratepayer impacts from
12 this project, the above statement by Yukon Energy sends up red flags to the UCG.

13
14 **QUESTION:**

15
16 1. Please confirm which of these statements are correct, i.e. will there be no
17 negative ratepayer impacts, or will possible temporary shut-downs of the Minto
18 Mine cause an impact to other ratepayers as would seem rational? How will this
19 be reconciled in this application to the Board?

20
21 **ANSWER:**

22
23 The PPA does not categorically state that there will be no adverse ratepayer impacts
24 from any possible cause, but states: "it is the Parties' intention that the costs of the
25 Transmission Project required to provide Grid Electricity to the Mine will not adversely
26 impact other ratepayers in Yukon"¹. To this end, the PPA includes terms and conditions
27 to help ensure that the provision of Grid Electricity to the Mine through the Transmission
28 Project will have no adverse impact on Yukon ratepayers in either the near-term or the
29 longer-term. Such terms and conditions include: the Capital Cost Contribution, the
30 Minimum Take-or-Pay, the YEC Security, provision for a Mine Net Revenue Account, the
31 acquisition of Diesel Units, provision for Decommissioning Costs and comprehensive
32 due diligence with regard to the YEC Security, Minto and the Mine (see YUB-YEC-1-29
33 for more on due diligence). Please also see response to YUB-YEC-1-32 which
34 addresses risk related to default and premature closure of the Mine.

35
1 See PPA, page 1, Background item "C".

1 Should there be temporary shutdowns of the Mine during the first eight years after
2 commencement of delivery Minto would still have to provide annual Take-or-Pay
3 Amounts until the \$24 million minimum payment had been fully discharged.
4

5 Should a temporary shutdown be due to Force Majeure, Section 12.3 provides that no
6 Force Majeure invoked or claimed by Minto will relieve Minto of its take-or-pay obligation
7 unless the Force Majeure is under Section 1.1(uu)(iv) (acts or omissions of
8 Governmental Authorities) and the Force Majeure directly results in a material closure of
9 the Mine.
10

11 In addition to the continuance of the Take-or-Pay Amounts throughout any temporary
12 mine shutdown, the Mine Net Revenue Account would also operate to shield ratepayers
13 from net losses due to the provision of service to the mine. Please see response to
14 YUB-YEC-1-15 on the Mine Net Revenue Account.

1 **REFERENCE: YEC PPA Approval Application**

2
3 **5.3 HOW THE PPA WILL APPLY TO OTHER INDUSTRIAL CUSTOMERS**

4
5 Section 5.7 of the PPA provides that New YEC Industrial Customers, as defined in the
6 PPA36, will be required by YEC to pay a Capital Cost Contribution for their appropriate
7 share of Capital Costs of the CS Project and any spur lines. This will not reduce or
8 otherwise alter Minto's liability for the Capital Cost Contribution in the PPA. Section 5.7
9 states that the contribution to the Capital Costs incurred by YEC assigned to a New YEC
10 Industrial Customer for the CS Project would be "based on the segment and voltage
11 level of a transmission line that each New YEC Industrial Customer would require to
12 receive Electricity in the absence of the Transmission Project or the CS Project." The
13 Minto PPA will be used as a template for future PPA customers thus insuring "no
14 negative impact on ratepayers" in this contract will protect ratepayers from being
15 adversely impacted when other industrial customer join the system 35 Impacts on
16 ratepayers related to net CS/MS Project capital costs not covered by the Minto mine
17 revenues and payments may also be prevented or mitigated if other mine loads are
18 connected to the CS/MS Project. A New YEC Industrial Customer is a YEC Major
19 Industrial Customer, other than Minto, that receives Grid Electricity from the
20 Transmission Project or the CS Project. One potential example would be Carmacks
21 Copper.

22
23 **PREAMBLE:**

24
25 Again this sounds good to use the YEC/Minto as a template for future PPAs, but there
26 seems to be nothing in this application on how another mine coming on stream would
27 affect the cost of service.

28
29 **QUESTION:**

30
31 1. Please confirm that bringing any new mine or industrial customer on the grid
32 stream would affect the cost of service for all ratepayer groups. Explain.
33 2. How is this accommodated in this application?

1 **ANSWER:**

2

3 **(1)**

4

5 The Firm Mine Rate is subject to adjustment after 2008, including adjustment as needed
6 to reflect the COS impacts of new mine customers in Yukon. See response to UCG-
7 YEC-1-11(2) and (3).

8

9 Please see YUB-YEC-1-10 for a full rationale regarding the cost of service methods
10 used to determine the Firm Mine Rate set out in Schedule C of the PPA.

11

12 Appendix A at Page A-16 specifically sets out that, "COS estimates are subject to
13 change as assumptions change." Current information suggests that 10.0 cents average
14 COS for 2008/2009 is a reasonable forecast estimate that is unlikely to be materially
15 changed absent some major new adjustment such as an additional new 2008/09 major
16 industrial load (e.g., an additional new near-term major industrial load on WAF such as
17 the Carmacks Copper mine resulting in a significant increase in WAF diesel generation,
18 which would affect COS estimates for the Industrial class (as well as other classes)).

19

20 **(2)**

21

22 The PPA provides (section 3.5) for the YUB to adjust the Firm Mine Rate from time to
23 time after 2008. The COS principles and methods in Schedule E to the PPA fully
24 accommodate COS adjustments as required to reflect new mine or industrial customer
25 loads.

1 **REFERENCE:**

2
3 **Prior Concerns Remain with the PPA and UCG Jan. 04/07 Submission re: PPA**
4 **Term Sheet (*numbers at far left are from UCG submission*)**

5
6 **PREAMBLE:**

7
8 3. UCG submits that any review undertaken of a power purchase agreement between
9 YEC and Minto should be part of a Part 3 review of the proposed Carmacks-Stewart
10 transmission line and any proposed customer feeder lines.

11
12 **II. LACK OF EXAMINATION PROCESS**

13
14 5. The referred term sheet for the proposed power purchase agreement was not
15 submitted to the YUB until after all arguments had been submitted in the Resource Plan
16 proceeding.

17
18 6. First, the late submission has left no opportunity for interested parties to submit
19 information requests regarding the proposed term sheet and the underlying Letter of
20 Intent nor any opportunity to cross-examine any party with respect to the proposed term
21 sheet regarding, amongst other issues, any alternative terms that were considered prior
22 to settling on the filed term sheet.

23
24 **V. CONDITIONS TO PROCEED WITH TRANSMISSION PROJECT**

25
26 25. The term sheet identifies conditions that must be fulfilled in order for the Minto mine
27 to have electricity available to it prior to the end of 2008.

28
29 26. UCG submits that the YUB should not feel pressured by the term sheet provisions to
30 provide any capital or rate approvals prior to undertaking full due diligence reviews of
31 proposals.

32
33 27. It appears that YEC equates approval of the purchase power agreement in a
34 subsequent proceeding with approval of the project as a whole, which is not necessarily
35 the case. It is possible that the purchase power agreement may be, with modifications,
36 acceptable to the YUB, but that the specifics of the project may not. Accordingly UCG

1 would expect that the term sheet would include the precondition that the YUB approve
2 the project itself, and not simply the purchase power agreement.

3

4 Add UCG's February 14, 2007 letter to the Board re: scope, combining reviews, and the
5 IR process of this proceeding:

6

7 **QUESTION:**

8

9 1. With all these concerns in mind will Yukon Energy commit to a more strenuous
10 review of the M/S line and the PPA which will allow for a proper flow of
11 information requests and a thorough cross-examination of all the new information
12 that has come forth since the Resource Plan Review, i.e. final PPA with Minto
13 Mine, YEC due diligence report about the Mine (yet to come), Cost of service
14 filing and new industrial mine rate, cost of service filing and secondary industry
15 mine rate?

16 2. Will Yukon Energy commit to thorough review of the Second Stage of the M/S
17 line before commencing construction?

18

19 **ANSWER:**

20

21 **(1)**

22

23 YEC considers the current process in place, combined with the earlier Resource Plan
24 hearing review, is appropriate to review the adequacy of the PPA and also reflects the
25 April 30, 2007 milestone condition in the PPA. The CS/MS Project is also currently
26 subject to review by YESAB. YEC will participate in any other regulatory review as
27 required, subject to continuing confidence that such review and other activities allow the
28 Stage One Project to be in service on a timely basis as required for its feasibility.

29

30 **(2)**

31

32 YEC supports the YUB January 15, 2007 Report recommendation at page 41 for a YUB
33 review of the Second Stage of the CS Project at such time as YEC proposes to proceed
34 with this stage. YEC notes that any such review will be able to build on the foundation of
35 the earlier review, and may also be subject to tight timing considerations.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4

5 **PREAMBLE: III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

6

7 11. The term sheet indicates that the power purchase agreement will meet the
8 requirement that there will be “no adverse rate impacts on other ratepayers in Yukon due
9 to PPA”. UCG submits that the provisions of the term sheet do not guarantee that this
10 requirement will be met. **UCG submits the same holds true for the PPA.**

11

12 **Customer Contributions**

13

14 12. The proposed plan on how Minto’s customer contribution will be paid does not
15 protect other Yukon ratepayers from having to assume accumulated bad debt that may
16 result from serving the mine.

17

18 **QUESTION:**

19

20 1. What happens if YEC’s cost of capital varies from the stipulated 7.5%? Is there
21 an adjustment mechanism built into the power purchase agreement? If not, why
22 not?

23 2. Why isn’t the value of Minto’s diesel generators or up-front money used as a
24 security deposit similar to that required of other Yukon ratepayers?

25

26 **ANSWER:**

27

28 **(1)**

29

30 There is no adjustment mechanism in the PPA. This number was considered more than
31 adequate to protect ratepayer interests under current weighted average cost of capital
32 conditions (i.e., well above YEC’s current cost of long term debt), and Minto wanted a
33 fixed rate in place.

34

1 **(2)**

2

3 Under the PPA YEC will acquire the diesel units upon Commencement of Delivery;
4 these units will help to provide added security as well as opportunities to minimize WAF
5 system costs under certain circumstances. See response to UCG-YEC-1-7.

6

7 It should be noted that Macquarie bank has a security interest over all of Minto's assets
8 and that this security interest has priority over any security interest of YEC except for
9 rights under Miner's Lien. Using the diesel units as collateral or as a security deposit
10 would not negate the security interest that Macquarie would have over any real property
11 rights that Minto has with regard to all buildings, improvements and fixtures at the mine
12 site. The Direct Agreement specifically provides under section 2.5 that YEC cannot
13 enforce its security before liabilities of the Finance Parties under that agreement have
14 been paid, and under section 2.6 all payments or distributions of any kind or character,
15 whether cash, property or securities, which may be payable or deliverable to YEC in
16 respect of YEC Liabilities must be held in trust for the benefit of the Finance Parities
17 represented by Macquarie Bank.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4

5 **PREAMBLE: III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

6

7 Customer Contributions

8

9 15. UCG sees no evidence of Minto taking on any risk in the proposed customer
10 contribution scenario.

11

12 **QUESTION:**

13

14 3. Why isn't Minto being asked to contribute something upfront that would be
15 equivalent to the immediate savings they will incur by switching from diesel
16 generation to a YEC supply?

17

18 **ANSWER:**

19

20 Section 5.2 of the PPA provides that Minto will commence making Capital Cost
21 Contribution payments after Commencement of Delivery. Such payments will include
22 equal blended monthly payments of principal and interest at 7.5% per year on the Mine
23 Spur and equal monthly payments of interest at 7.5% per year for the first four years of
24 YEC service and equal blended monthly payments of interest and principal over the next
25 three years of YEC service. The PPA includes provisions for accelerated payments if
26 required at the end of the fourth year of YEC service.

27

28 The scheduled timeframe within which such payments must be made under the
29 agreement is intended to be less than the total life of the Mine, ensuring that the Mine
30 Spur is fully paid off well before the Mine closes and that the capital contribution of \$7.2
31 million towards the Carmacks-Minto Landing Segment of the Transmission project has
32 also been fully paid.

33

34 Please see response to YUB-YEC-1-34 as to the reasons for the PPA approach in this
35 instance.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4

5 **PREAMBLE:** **III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

6

7 **Security**

8

9 16. The only security provided to YEC (should the price for copper collapse within two or
10 three years) is a charge which is second to whomever provides Minto's Current Bank
11 Financing.

12

13 **QUESTION:**

14

15 4. What guarantee is there that whoever provides Minto's Current Bank Financing
16 would be able to sell off Minto's bankrupted assets for more than its own debt?

17

18 **ANSWER:**

19

20 There are no such "guarantees".

21

22 The central risk issue relates to assessment of the risk of such an event occurring that
23 would render the Mine asset subject to premature closure well before its expected life.
24 The recent \$40 million of BMO new debenture financing as well as the earlier Macquarie
25 financing are evidence of major financial institutions that, based on their own separate
26 due diligence, have concluded that such risk is not likely to be material.

27

28 The strong expectation is that the Macquarie Current Bank Financing will be fully repaid
29 long before closure of the Mine, at which time YEC will have first charge on the Mine. In
30 this circumstance, YEC's best security remains the likelihood that the Mine remains
31 profitable to continue operation over its expected life, i.e. that it has sound and mineable
32 reserves that can be mined and processed at reasonable incremental operating costs
33 relative to likely market prices.

34

35 See response to YUB-YEC-1-32.

1 **REFERENCE: Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from UCG submission)**

3

4 **PREAMBLE: III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

5

6 **Security**

7

8 17. Contrary to the term sheet's suggestion (**and now the same scenario in the PPA**),
9 UCG submits that, given the Yukon's past experience with mines, there should be no
10 situation that would warrant the ending of security provisions from industrial customers.

11

12 **QUESTION:**

13

14 5. Where are the up-front security provisions? Please explain.

15

16 **ANSWER:**

17

18 Security provisions to be in place (under Section 3.1(f)) by May 31, 2007 are described
19 in section 6.5 of the PPA and involve a charge over all assets of Minto, including the
20 Mine, second only to the Current Bank Financing, and will operate to secure payment for
21 the Capital Cost Contribution plus accrued interest, the Minto Power Bills, the minimum
22 take-or-pay obligations, the Decommissioning Cost Payment and Minto payments to
23 Caterpillar related to the Cat Leases after the leases are assigned to YEC.

24

25 The YEC Security will only be discharged under 6.5(f) after the Capital Cost Contribution
26 plus accrued interest under section 5.2, the Decommissioning Cost Payment under
27 section 11.2(b) and the Minimum Take-or-Pay Amount obligation have been paid in full.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4

5 **PREAMBLE: III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

6

7 **Take-or-Pay Provision**

8

9 18. UCG submits that an eight year take-or-pay provision does not provide any security
10 if the mine does not operate more than a few years. There appears to be nothing
11 preventing the mine from limiting its payments to YEC in the early years and then
12 abandoning operations prior to the requirement to pay the remainder of the \$24 million.

13

14 **QUESTION:**

15

16 6. Please explain Yukon Energy's position on the above statement.
17 7. In the PPA what is preventing the mine from limiting its payments to YEC in the
18 early years and then abandoning operations prior to the requirement to pay the
19 remainder of the \$24 million?

20

21 **ANSWER:**

22

23 **(6) and (7)**

24

25 See UCG-YEC-1-2(2) regarding operation of the take-or-pay provisions. Capital Cost
26 Contribution Payments must also continue to be paid on a monthly basis as set out in
27 the PPA.

28

29 The take-or-pay arrangements provide that Minto may only pay less than the average \$3
30 million per year in circumstances where they have accrued some creditable amount that
31 may be carried forward and applied against future payments. Minto cannot become
32 significantly in arrears from year to year and each year their payments to date must
33 average \$3 million. The Mine is only alleviated of its take-or-pay obligation under Force
34 Majeure in circumstances where "acts or omissions of Governmental Authorities" directly
35 result in a material closure of the mine under section 12.3 of the PPA. Further, the YEC
36 Security is not discharged until the Minimum Take or Pay Amount is paid off (and other
37 specified payment obligations are also fully met).

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4

5 **PREAMBLE: III. NO ADVERSE IMPACT ON OTHER RATEPAYERS**

6

7 **Net Revenue Account**

8

9 19. The conditions attached to the proposed Minto Net Revenue Account provide no
10 benefits to other Yukon ratepayers.

11

12 **QUESTION:**

13

14 8. If industrial customers are required to pay 100% of the cost to supply them
15 electricity, why would there need to be any provisions for payments that would
16 exceed that cost?

17 9. Would not any rate charged to an industrial customer such as Minto have to
18 recover the entire, fully allocated cost of service for providing the mine with
19 electricity?

20

21 **ANSWER:**

22

23 **(8) and (9)**

24

25 Industrial customers are required to pay 100% of the average embedded costs under the
26 cost of service methodology required by OIC 1995/90 and past Board orders. Average
27 embedded costs differ from incremental costs and revenues from a new industrial
28 customer which affect the overall ongoing revenue requirements. There is no fixed
29 relationship between average embedded costs and incremental costs.¹

30

31 The Mine Net revenue Account addresses incremental revenues and costs as specified
32 in the PPA. See also response to YUB-YEC-1-15.

¹ By way of example, Minto would pay a much lower firm rate today if it only had to pay for its incremental costs imposed on the WAF system - and as a result, other Yukon ratepayers would not benefit from new sales of surplus hydro power. The same rate issue was addressed with the Faro mine, and OIC 1995/90. In contrast, if the hydro surplus no longer existed, new customer loads from any rate class will result in increment generation costs based on diesel generation and incremental costs will be materially higher than average embedded costs used under COS.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4
5 **PREAMBLE: IV. YUB APPROVAL OF RATES**

6
7 **Net Revenue Account**

8
9 21. The term sheet identifies specific components of a power purchase agreement that
10 the YUB will be requested to approve. It has been quite some time since any efforts
11 have been undertaken to verify that all Yukon ratepayers are paying their allocated cost
12 of service. Also OIC 1995/90 (as amended) specifies that rates charged to industrial
13 customers be "sufficient to recover the costs of service to that customer class",

14
15 **QUESTION:**

16
17 10. UCG questions how any rate (seasonal or otherwise) for the Minto operation
18 could be established without first undertaking a complete cost allocation and rate
19 design review?
20 11. Please verify that these provisions are being maintained when any new industrial
21 customer is added to the system.

22
23 **ANSWER:**

24
25 **(10)**

26
27 Adequate evidence is provided in the Application on current bulk power costs
28 (generation and transmission) of the Yukon system and past COS assessments as
29 required to assess 2008 COS for the Major Industrial Customer class sufficient to
30 confirm compliance with OIC 1995/90, i.e., that the Firm Mine Rate is sufficient to
31 recover cost of service as required under this OIC.

32
33 Please see response to YUB-YEC-1-10, 16, 18, 20, 21, 23, 24, 25, and 26.

34

1 **(11)**

2

3 It is anticipated that the Minto PPA will be used as a template for future PPA customers.
4 In any event, OIC 1995/90 provisions remain as a directive to the YUB on the matter of
5 industrial rates. See response to UCG-YEC-1-11 and 21.

1 **REFERENCE:** **Prior Concerns Remain with the present PPA as with UCG Jan.**
2 **04/07 Submission re: Term Sheet (numbers at far left are from**
3 **UCG submission)**

4
5 **PREAMBLE: IV. YUB APPROVAL OF RATES**

6
7 23. The term sheet (**now PPA as well**) is proposing what amounts to a commodity-
8 based rate for processing low grade ore at the Minto mine. UCG suggests that there is
9 limited information provided on exactly how the commodity-based rate will be
10 determined and how the mine will be held accountable for such energy usage.

11
12 **QUESTION:**

13
14 12. Why were not other conditions considered, i.e. profitability rate riders established
15 to facilitate the payment of funds by industrial customers during periods of high
16 profitability to a rate stabilization fund used to the benefit of all Yukon ratepayers.
17 Industrial customers could then be considered for a reduction in electricity costs
18 paid during periods of low profitability which would be funded by the rate
19 stabilization fund. As well, within the negotiated power service?

20
21 13. How will this special incentive rate offered be self-sustaining in that benefits will
22 at least pay for the subsidy between normal utility rates and the special incentive
rate?

23
24 **ANSWER:**

25
26 **(12) and (13)**

27
28 The Firm Mine Rate and other elements of the PPA in general have no similarity to a
29 commodity-based power rate, i.e., the proposed rates do not in any way vary depending
30 on copper or other commodity prices. YEC did not consider making its firm mine rate
31 subject to commodity prices, in part because the floor price required under OIC 1995/90
32 cannot be varied based on such considerations, in part because of the nature of any
33 such risk management approach, and in part because Minto was not interested in paying
34 higher rates today along with the other payments being required in the PPA.

35
36 The Low Grade Ore Processing Secondary Energy Rate is only relevant in the near term
37 under surplus hydro conditions and after supplying rate Schedule 32 customers.

1 **REFERENCE: YEC Security That Would Protect Yukon Ratepayers from the**
2 **Risks Associated With This Proposed Transmission Line Project**

3
4 **QUESTION:**

5

6 1. Why did YEC not require suitable upfront security deposit from Minto Mine?

7 2. Why did YEC not require a reasonable payment schedule by the mine on the

8 debt plus interest starting immediately on commencement of purchasing power

9 from YEC?

10 3. Why did YEC not provide for security on a percentage of each of the ore loads

11 leaving the mine?

12 4. Why did YEC not provide for security on the used Minto diesel generators?

13 5. Why did YEC not provide for security up-front, for each year, on the amount of

14 savings Minto is expected to incur by replacing diesel generation with the YEC

15 hydro grid?

16
17 **ANSWER:**

18
19 **(1), (2), (4), and (5)**

20 Please see answer to question UCG-YEC-7 and 23-(a),(b) and (c), and YUB-YEC-1-34.

21
22 **(3)**

23 YEC has a charge over all assets including the mine. MRI currently has a charge over

24 the copper concentrate on the mine site; however, MRI and Minto are currently in the

25 process of renegotiations such that MRI will purchase and pay for the Copper

26 Concentrate on the Mine Site. See also Direct Agreement Schedule B description of

27 YEC's Security interest.

1 **REFERENCE: Proposed Purchase Power Agreement Attachment E**

2 **PREAMBLE:**

3 Supposing the Board would accept all of the concepts in this PPA agreement, including
4 the YEC's Cost of Service, Firm Mine Rate and Low Grade Ore Processing Secondary
5 Energy: In Schedule C of the PPA it requests no rate riders are applicable.

6 **QUESTION:**

7

8

9

10

11 1. Although we understand that the proposal is to have Minto Mine provide diesel
12 fuel when necessary diesel usage is required, what about other diesel associated
13 costs, i.e., O&M of diesel generators at mine site, standby costs of diesel
14 generators at mine site?

15 2. What if Whitehorse or Faro diesels are required to maintain the integrity of the
16 grid?

17 3. In Schedule D of the PPA in the Rate section there is no Demand Charge, only
18 Energy Charge. Please explain.

19 **ANSWER:**

20 (1)

21

22 Generally, YEC is responsible for all costs of operating and maintaining the Diesel Units,
23 except under the special circumstances addressed in Sections 4.8 and 10.4(b). These
24 operating costs would become part of YEC's overall costs, and would also be subject to
25 being considered for inclusion as Incremental YEC Costs when determining the Mine
26 Net Revenue in a fiscal year.

27

28

29

30 Section 10.4 of the PPA provides that subject to 10.4(b), YEC will be responsible for
31 operation and maintenance costs for the Diesel Units for so long as the Diesel Units are
32 leased by YEC from Caterpillar or owned by YEC and remain at the Mine Site. Minto is
33 fully responsible under Section 10.3(b) for all payments to Caterpillar for these units.

34

35

36

37 Section 10.4(b) provides that during any period when YEC is unable to provide Grid
Electricity to the Mine, and YEC is also otherwise unable to use the Diesel Units to
supply Electricity to the WAF grid, Minto may by providing written notice to YEC require

1 that the Diesel Units be used to supply the Mine with Electricity with the sole cost to
2 Minto being costs for fuel and operator assistance. Section 4.8 provides Minto with
3 similar rights and cost obligations if it notifies YEC that it requires the Diesel Units be
4 used to supply the Mine with Electricity under certain circumstances where Minto
5 considers its equipment at the Mine to be at risk of damage from the supply of Grid
6 Electricity and YEC is also unable to use the Diesel Units to supply Electricity to the
7 WAF grid.

8

9 (2)

10

11 The Diesel Units at the Mine are available, after completion of the Transmission Project,
12 to be used as required by YEC for the WAF system. All diesels on WAF will be available
13 for use as required, in accordance with the economic stacking order and any other
14 relevant considerations.

15

16 After the Mine is connected to the WAF grid the Diesel Units will in effect add 6.4 MW of
17 reasonably low cost and low risk diesel capacity to the WAF system and also provide
18 added security to YEC and Minto with regard to reliable supply at the Mine. When WAF
19 diesel operation is required, YEC operation of at least two of the Diesel Units at the Mine
20 Site (especially for baseload operation) is expected to be cost effective due to the
21 minimization of line losses and related additional diesel generation requirements.
22 Between two and three of the Diesel Units at the Mine Site would rank next to the top of
23 the WAF diesel generation stacking order, reflecting their capability to supply expected
24 Mine load levels at efficient fuel operation levels. In the near term these units provide
25 cost effective contingency protection until such time as other potential major mine loads
26 as well as capacity supply options are better clarified.

27

28 See also response to YUB-YEC-1-8(1) and (2).

29

30 (3)

31

32 Since is it a secondary power rate and not firm power, there is no demand charge
33 related to providing firm service during peak winter load time periods (same as is the
34 case for Rate Schedule 32 secondary energy sales today).

1 **REFERENCE: Cost of Service Review**

2

3 **PREAMBLE:**

4

5 In the 1992 Board Report to the Commissioner in Executive Council regarding Review of
6 Cost of Service to and Rates Charged to Electricity Customers in Yukon, the Board
7 states: "The fair apportionment of costs to each of the customer classes requires a cost
8 of service study. A cost of service study usually proceeds in three steps,
9 functionalization, classification and allocation, in order to estimate the costs caused by
10 each customer class."

11

12 **QUESTION:**

13

14 1. Does Yukon Energy agree with the above statements? Please explain.
15 2. Has Yukon Energy followed these principles in determining their Firm Mine
16 Rate/Industrial Primary? Please explain.
17 3. Has Yukon Energy followed these principles in determining their Rate Schedule
18 35/Low Grade Ore Processing Secondary Energy? Please explain.
19 4. Does Yukon Energy confirm that any new major project coming on line
20 significantly influences each of these three steps? Please explain.

21

22 **ANSWER:**

23

24 **(1), (2), and (4)**

25

26 YEC agrees with the three step method, and has adopted same in its filing. See
27 Schedule E of the PPA document which sets out COS principles and methods and
28 Attachment A of the PPA Application which sets out the COS principles and methods
29 used to determine the 2008 Firm Mine Rate.

30

31 Please also see response to YUB-YEC-10(4) and 16, 18, 20, 21, 23, 24, 25, and 26.

32

33 **(3)**

34

35 A cost of service is not required to determine a secondary energy rate, i.e., it was not
36 used or suggested to be needed to determine the current rate Schedule 32. For a more
37 thorough discussion of the rate set out in Rate Schedule 35 please see YUB-YEC-1-11.

1 **REFERENCE: Cost of Service Review**

2 **PREAMBLE:**

3 In the 1992 Board Report to the Commissioner in Executive Council regarding Review of
4 Cost of Service to and Rates Charged to Electricity Customers in Yukon, the Board
5 states "The Board recommends that a target revenue to cost ratio of 100% be
6 established for the industrial rate class, and that the rates charged to Curragh should be
7 determined by the Board only after a public hearing."

8
9
10 **QUESTION:**

11 1. Does Yukon Energy confirm that a cost of service/rate design study and Board
12 review is the only accountable way to determine rate allocation? Please explain.

13 **ANSWER:**

14 The quote from the 1992 Report supports the OIC 1995/90 directive that industrial
15 customer rates be at least sufficient to recover costs of service determined on a Yukon
16 wide basis reflecting consolidated rate revenue requirements of both YEC and YECL.
17 The YEC Application and COS in Attachment A as used to determine the Firm Mine
18 Rate in the PPA fully reflect these requirements.

19
20 Please see YUB-YEC-1-10(4) and 16, 18, 20, 21, 23, 24, 25, and 26.

1 **REFERENCE: PPA**

2

3 **PREAMBLE:**

4

5 The Board requested submissions on the Yukon Energy-Minto Mine Term sheet and
6 stakeholders gave various concerns.

7

8 **QUESTION:**

9

10 1. Please explain why the PPA did not resolve any of these stakeholder concerns in
11 this final agreement with Minto Mine.

12

13 **ANSWER:**

14

15 The Term Sheet was filed with the Board to inform the Board of material progress on the
16 PPA and to notify the Board that YEC will be bringing forward an application to approve
17 the PPA by the end of January. At that time intervenors provided various comments.
18 Four intervenor submissions raised issues relating to specific terms and conditions to be
19 included in the PPA including issues relating to rates and the adequacy of the security
20 and payment schedules for the Mine's contribution to the CS line and the Mine Spur.

21

22 Since the Term Sheet was provided to the Board on December 21, 2006, the PPA
23 document evolved considerably and these key issues have been taken into further
24 consideration in at least the following areas:

25

26 **1. Low Grade Ore Secondary Energy Rate**

27

28 The Term Sheet proposed a new secondary energy sales rate set at 6 cents per
29 KWh for processing ore at the Mine with less than 1% copper content. This rate
30 was subject to the stipulation that the secondary energy sold under the rate
31 would only be available from the surplus hydro-electric energy that remained
32 after supplying customers served under the current secondary energy rate;
33 however, the proposed rate set out in the Term Sheet provided that Minto could
34 gain priority access to available secondary energy if it paid the full energy
35 charge.

36

1 Under the PPA, the secondary energy rate for processing Low Grade Ore
2 remains 6 cents per KWh but the provisions for priority access over other
3 customers served under the current secondary energy rate have been removed
4 and Minto will gain access to secondary energy only after the needs of current
5 secondary rate customers have been met, thus alleviating concerns that Minto
6 would gain access to secondary energy resources in priority or preference to
7 current YEC secondary energy customers on the system.

8

9 **2. Customer Contribution Payments**

10

11 The Term Sheet had set out that Minto Customer Contribution would include
12 payments based on the costs incurred by YEC to develop and commission the
13 Mine Spur as well as a \$7.2 million dollar payment towards the costs to develop
14 and commission the Carmacks-Minto Landing segment of the CS Project.

15

16 The Term Sheet set out that Minto would make annual payments to YEC for
17 seven years for both the Mine Spur contribution and the Carmacks-Minto
18 contribution on the following basis:

19

- 20 • Interest only payments for the first four years.
- 21 • Equal blended annual payments of interest and principal from year five
22 through year seven.
- 23 • If Minto did not provide documentation to YEC by December 31, 2008
24 confirming Minto's ability and commitment to extend Minto operations to the
25 end of 2016 at consumption levels of 30 GWh/yr, Minto would be required to
26 pay the balance of interest and principal at the end of the fourth year.

27

28 In response to concerns that Minto was not paying any principal towards Capital
29 Costs until the end of year 5, Part 5 of the PPA now provides that Capital Cost
30 Contributions will be made in the following manner:

31

- 32 • For the Mine Spur, monthly payments of principal and interest will be made
33 starting from the Commencement of Delivery until the Mine Spur Capital Cost
34 Contribution is paid out at year seven.
- 35 • For the Carmacks-Minto Landing Capital Cost Contribution, monthly
36 payments of interest will be paid from the commencement of delivery until
37 year four; from year five equal blended payments of interest and principal will

1 be paid until the Carmacks-Minto Landing Capital Cost Contribution is paid
2 out at year seven.

3 • If Minto does not provide documentation to YEC by December 31, 2008
4 confirming Minto's ability and commitment to process Additional Reserves
5 prior to December 2017 and sustain an additional three years of processing
6 at a defined daily processing level, YEC may require that Minto pay the
7 outstanding balance of the Capital Cost Contribution at the earlier of the
8 fourth annual payment date or December 31, 2013.

9
10 **3. Loan Security and Repayment Terms**

11
12 Interested parties raised concerns about the fact that YEC will have security
13 second to the Current Bank Financing.

14
15 Under section 6.5, the YEC Security will be fully discharged only when the
16 Capital Cost Contribution plus accrued interest under Section 5.2, the
17 Decommissioning Cost Payment as required under Section 11.2(b), and the
18 Minimum Take-or-Pay Amount obligation have been paid in full. However, it is
19 noted that under section 3.5 of the PPA, in the event that certain stipulated YUB
20 decisions materially adversely affect the cost savings to Minto under the PPA,
21 the YEC Security would no longer be provided as continuing security for the
22 Minimum Take-or-Pay Amount and consequently the security would be amended
23 and restated. The YEC Security is expected to be enhanced by the new C\$45
24 million debenture financing announced February 8, 2007 (and now concluded)
25 that will replace the SLF debt included in the Current Bank Financing and reduce
26 the amount of Current Bank Financing that is ahead of YEC's security interest.

27
28 In devising additional terms for the YEC Security in the PPA, these concerns
29 have been addressed in section 6.6 of the PPA with regard to representations
30 and covenants between Minto and YEC with regard to the Current Bank
31 financing.

1 Minto has covenanted with regard to the Current Bank Financing that Minto will
2 not permit the amount of principal outstanding under the Current Bank Financing
3 to exceed the following:

4

- 5 • For the PLF Agreement, more than \$5,000,000(USD) the \$57,788,051(USD)
6 in total commitments made under the PLF Agreement provided such
7 \$5,000,000 may not be borrowed by Minto later than 90 days after the
8 Commercial Operation Date.
- 9 • For the SLF Agreement \$20,000,000 (CDN).
- 10 • For the MRI Agreement \$20,000,000 (USD).

11

12 Minto covenants that the amounts owing under each of the PLF or SLF
13 Agreements will be paid on or before the following dates:

14

- 15 • The PLF Agreement will be paid in full on or before November 30, 2009.
- 16 • The SLF Agreement will be paid in full on or before November 30, 2010.

17

18 Minto must seek YEC consent prior to:

19

- 20 • extending the maturity date for the facility under the PLF Agreement or the
21 facility under the SLF Agreement by more than 6 months beyond the maturity
22 date currently provided.
- 23 • using any principal amount borrowed by Minto under the PLF Agreement or
24 the SLF Agreement on the development or any mineral interest located
25 outside the boundaries of current mineral claims.
- 26 • not agree to change in interest rates currently provided for the current bank
27 financing.

28

29 In all cases YEC's consent is not to be unreasonably withheld.

30

31 **4. Due Diligence:**

32

33 To further alleviate concerns regarding the YEC Security that were raised with
34 regard to the term sheet, YEC has examined the extensive due diligence
35 conducted by the bank and has also commenced financial and legal due
36 diligence of its own with regard to Minto's operations. The financial due diligence
37 and the legal due diligence is being conducted by Behre Dolber and Davis and

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1 Company LLP respectively. Please see YUB-YEC-1-29 for more on due
2 diligence.

1 **REFERENCE: Application, Section 1.0 - Introduction, Page 1**

2
3 "Yukon Energy and Minto have now concluded the PPA (see Attachment E), which is
4 hereby filed with the Board. As noted in the PPA, the PPA will not be effective until it has
5 been approved by the YUB, and such approval will be needed on, or before, April 30,
6 2007 in order to complete the Transmission Project prior to September 30, 2008."

7
8 **QUESTION:**

9
10 1. Given that the Minto mine will have an on-site power supply until the proposed
11 Transmission Project is complete, please provide YEC views on the
12 repercussions to ratepayers if the in-service date of the Transmission Project is
13 delayed. Please indicate what time delay (e.g., 6 months, 12 months, 18 months,
14 etc.) would be considered a "deal breaker".

15
16 **ANSWER:**

17
18 Ratepayer impacts from delays in timely completion of the Transmission Project in 2008
19 are expected to reduce ultimate ratepayer benefits by at least \$250,000 per month of
20 delay (see YUB-YEC-1-4 for review of this and other related benefits of timely
21 completion).

22
23 Beyond such loss of benefits from delay, there are material consequences in terms of
24 Capital Cost Payments and take or pay payments if service to the Mine is delayed
25 beyond September 30, 2009 (see below).

26
27 The PPA provides benchmarks which impact on the amount of the Capital Cost
28 Contributions that may be received by YEC from Minto the longer the project is delayed
29 longer than one year beyond the September 30, 2008 target for in-service, consequently
30 reducing the cost savings to Minto:

31
32 • If Commencement of Delivery occurs after September 30, 2009, the Capital
33 Costs for the Mine Spur included in the Capital Cost Contribution will not include
34 any interest on such Capital Costs after January 1. 2009.
35 • If Commencement of Delivery occurs after March 31, 2010, the Capital Cost
36 Contribution payment will be adjusted pursuant to section 5.3 or 5.5. of the PPA:

1 – **Section 5.3:** if Commencement of Delivery does not occur until after March
2 31, 2010, the payments payable by Minto to YEC under 5.2(b) (equal blended
3 payment of principal and interest for Mine Spur and CS Segment) will be
4 extended by one month (or any portion thereof) for each month (or any
5 portion thereof) that the Commencement of Delivery is delayed beyond
6 March 31, 2010, provided the Additional Reserves under 5.2(d) have been
7 confirmed; the extension of payments under 5.3 will not go beyond the date
8 which Minto confirms that ore reserves at the Mine are planned to be
9 processed at the Mine, provided that the processing level planned is not less
10 than the Daily Processing Level.

11 – **Section 5.5:** if Commencement of Delivery occurs after March 31, 2013,
12 Minto will pay the Capital Cost Contribution plus interest per annum at the
13 Cost of Capital on the unpaid balance, to be paid in equal blended monthly
14 payments of interest and principal on the Capital Cost Contribution payable
15 within 5 Business Days of the end of each month such that the Capital Cost
16 Contribution will be paid out in full on the third Annual Payment Date. Minto
17 will have no obligation to make payments under section 5.5 after the
18 Commercial Operation Cessation Date at which point Minto's obligations
19 under section 5.5 will cease. Further, under no circumstances will the Capital
20 Cost Contribution exceed \$0.24 per kilowatt hour less the cost of Electrical
21 Energy use for that period. If the Mine resumes processing after the
22 Commercial Operation Cessation Date, the Capital Cost Contribution payable
23 under this section 5.5 will resume until the date of the next Commercial
24 Operation Cessation Date.

25

26 Under section 6.3 of the PPA, the take-or-pay contribution is also reduced by \$250,000
27 for each month that the Commencement of Delivery is delayed beyond September 30,
28 2009.

29

30 In summary, the longer it takes to get the required approvals to build the transmission
31 line in order to provide for commencement of delivery of power to Minto, fewer benefits
32 will be available and greater cost risks will arise for YEC starting after September 30,
33 2009. In addition to the cost impacts noted above, YEC would be concerned about the
34 likely remaining life of the Mine during which YEC would be able to provide service to the
35 Mine being shortened by such delays, thereby adding to YEC risks regarding full
36 recovery of its costs.

37

- 1 Prior to the approval of construction contracts for the Transmission Project, the YEC
- 2 Board of Directors will assess the risks and benefits of proceeding with the project and
- 3 make a final determination regarding whether or not to proceed. YEC is not prepared at
- 4 this time to indicate what specific time delay would be considered a “deal breaker”.

1 **REFERENCE: Application, Section 2.0 - Overview of the PPA and Requested**
2 **Approvals, Page 2**

3

4 "On October 13, 2006, YEC filed with the Yukon Environmental and Socio-economic
5 Assessment Board Executive Committee a Project Proposal Submission for the
6 Carmacks-Stewart/Minto Spur Transmission Project."

7

8 **REFERENCE: Application, Section 3.1 – Update from Other Filings, Including**
9 **YESAB**

10

11 "On January 25, 2007 the YESAB Executive Committee completed its adequacy review
12 for the Carmacks-Stewart Crossing / Minto Spur (CS/MS) Transmission Project, and the
13 project has proceeded to the Executive Committee Screening stage of the YESAB
14 approvals process."

15

16 **QUESTION:**

17

18 1. Please provide an update on the status of the YESAB submission and the
19 expected time frame for YESAB approvals.

20

21 **ANSWER:**

22

23 YEC received an adequacy notice February 2, 2007, and on February 12, 2007, YESAB
24 published notice of the screening. A 30 day period of public comment commenced
25 February 12 that will conclude March 14, 2007.

26

27 YEC is currently targeting for the YESAB draft screening report to be available for public
28 comment by April 30, 2007 and the Final YESAB Report with recommendations by June
29 30, 2007. Approvals, which are provided by each government Decision Body, are
30 targeted to be secured by July 30, 2007. These target dates, which reflect YEC planning
31 requirements related to seeking a construction start this fall, are subject to material delay
32 risks related to the regulatory processes.

33

34 YEC's current focus on April 30, 2007 is to enable the YEC Board to proceed, if it so
35 decides, in May to order (with cancellation provisions) long-lead equipment such as
36 power transformers. Ordering such long-lead equipment this May is expected to be

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- 1 required to ensure that the equipment will be available for installation on site within the
- 2 next year during the expected construction schedule.

1 **REFERENCE: Application, Section 2.0 - Overview of the PPA and Requested**
2 **Approvals, Page 2**

3
4 “Section 3.1(a) of the PPA provides that prior to proceeding with and completing the
5 Transmission Project under the Agreement, on or before April 30, 2007 the YUB will
6 have approved the PPA.”

7
8 **PREAMBLE:**

9
10 In its January 15, 2007 Report to the Executive Commissioner on YEC’s 20-year
11 Resource Plan, the Board noted that the Minister of Justice had said in her letter of
12 August 29, 2006 to the Board that “prior to the implementation of any proposed
13 significant energy projects by YEC (e.g., construction of the Carmacks-Stewart
14 transmission line), it is the government’s intention to refer the details of such projects to
15 the YUB for review and recommendation under provisions of Part 3 of the Public Utilities
16 Act”.

17
18 The Minister of Energy, Mines and Resources has publicly indicated that an official “full
19 scrutiny” hearing into the proposed power line extension from Carmacks to Pelly
20 Crossing, (and then on to Stewart Crossing in phase two) will take place.

21
22 Given that the proposed power purchase agreement submitted by YEC and the Part 3
23 review of the proposed power line extension are inextricably linked, it appears unlikely
24 that the proposed PPA will be approved by April 30, 2007.

25
26 **QUESTION:**

27
28 a) Please explain the permits and approvals that YEC understands are required in
29 order to proceed with the proposed Transmission Project and the anticipated
30 timing of each of these permits and approvals.
31 b) Given UCG’s understanding that the YUB’s January 15, 2007 Report to the
32 Executive Commissioner on YEC’s 20-Year Resource Plan with respect to the
33 proposed Transmission Project contained only recommendations, please provide
34 YEC’s understanding of any approvals it feels were provided by the Board in its
35 Report.
36 c) Please confirm that the proposed power purchase agreement will be terminated if
37 approval for the PPA is not provided on or before April 30, 2007.

1 **ANSWER:**

2

3 **(a)**

4

5 In addition to approval of the Minister responsible for Yukon Development Corporation
6 pursuant to Order-in-Council 1993/108, regulatory permits and approvals are required
7 for land use (Crown lands and settlement lands), river and stream crossings and other
8 activities related to the Project's development.

9

10 Table 1.5-1 in the Carmacks-Stewart Spur Line Project Proposal Submission
11 Document lists the regulatory permits and approvals that have been identified.
12 Construction of the Project is planned to be in conformance with Fisheries and Oceans
13 Canada (DFO) "Overhead Line and Overview Construction Operational Statement,
14 Version 2. 2006" and accordingly no DFO permit requirement is included in Table 1.5-
15 1.5.

Activity	Permit Required	Regulation
Clearing or installing a utility ROW Conducting geotechnical studies (for substations)	Land Use Permit Land Use Permit	<i>Territorial Lands (Yukon) Act, Lands Act, Land Use Regulations</i>
Clearing or installing a utility ROW on settlement lands	First Nation access for construction approval	<i>N/A</i>
Tenure for Land Lease	Application for Land	<i>Territorial Lands (Yukon) Act, Lands Act, Land Use Regulations</i>
Tenure/easement for Land Lease on settlement land	As-built easement or equivalent for ROW on settlement lands	<i>N/A</i>
Construction of new road access Construct road access on highway ROW Use of land within highway ROW Perform work within highway ROW Erect a sign within highway ROW	Above, and Permit under Highways Act Section 7(2) Access Permit License of Occupation Work in ROW Permit Sign Permit	<i>Highways Act, Highways Regulation</i>
Permission to obtain gravel/sand from quarry	Quarry Permit (submitted along with Land Use Permit)	<i>Quarry Regulations, Territorial Lands (Yukon) Act, Quarry Regulations, Lands Act</i>
Timber cutting – if less than 1000 m ³ per year Timber cutting – if greater than 1000 m ³ per year	Commercial & Personal Use Permit Timber Permit or Timber Harvest Agreement	<i>Territorial Lands (Yukon) Act, Timber Regulation</i>
Burning refuse (wood)	Burning Permit	<i>Forest Protection Act, Forest Protection Regulation, Territorial Lands (Yukon) Act</i>
Work over or across any navigable water	Application for Approval of Proposed Works under the Navigable Water Protection Act, and Lands Act (Yukon)	<i>Navigable Water Protection Act Territorial Lands (Yukon) Act, Lands Act, Land Use Regulations</i>
Storage and handling of Petroleum Products	Storage Tank Systems Permit, Land Use Permit	<i>Environment Act, Storage Tank Regulation Territorial Lands (Yukon) Act, Lands Act, Land Use Regulations</i>
Handling, Disposal, Generation or Storage of Special (Hazardous) Wastes	Special Waste Permit (Environment Act)	<i>Environment Act, Special Waste Regulation</i>
Construction of buildings outside a municipality	Building Permit	<i>Building Standards Act</i>
Work within 4 km of aerodrome property	Transport Canada Obstacle Clearance Form	<i>Canadian Aviation Regulation TP 312 Standards and Recommended Practice</i>

16

1 In general, final approvals as noted above cannot be provided until the YESAB Final
2 Report is issued and the relevant Decision Bodies have accepted its recommendations.
3 As noted in response to UCG-YEC-2-2, YEC is currently targeting for this to occur by the
4 end of July 2007.

5

6 However, PPA approval by the YUB and certain other key milestones to be achieved by
7 April 30, 2007, are required to enable the YEC Board to proceed, if it so decides, in May
8 to order (with cancellation provisions) long-lead equipment such as power transformers.
9 Ordering such long-lead equipment this May is expected to be required to ensure that
10 the equipment will be available for installation on site within the next year during the
11 expected construction schedule. If YEC fails to order long-lead equipment in May there
12 are expected to be severe consequences as regards schedule, including:

13

14 • At minimum the loss of a month in project in-service is possible for each month of
15 delay in so ordering; in addition
16 • YEC may well face an added loss of 3 to 6 months if delay means that YEC is
17 unable to meet critical seasonal windows for installation in field of equipment
18 being ordered (this point will be assessed in more detail as part of the preliminary
19 engineering work to commence in March).

20

21 **(b)**

22

23 Please see YECL-YEC-1-1(a).

24

25 **(c)**

26

27 Section 3.1(a) of the PPA sets out the condition that on or before April 30, 2007 the YUB
28 must have approved of the PPA including various provisions listed in 3.1(a)(i) through
29 (vii). Section 3.1(a) is to the benefit of both Parties and may only be waived, altered or
30 the time period extended by written agreement between the parties. Under the
31 provisions of the PPA the Parties must exercise commercially reasonable efforts to
32 ensure that the conditions for which they are responsible are fulfilled or waived on or
33 before the date specified. On the April 30, 2007 date, if the Parties cannot agree to
34 waive or extend the time period for the provision or to waive the provision then the PPA
35 will be terminated.

36

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- 1 YEC in any event will not proceed with ordering of long lead equipment prior to YUB
- 2 approval of the PPA.
- 3

1 **REFERENCE: Application, Section 3.1 – Update from Other Filings, Including**
2 **YESAB**

3
4 “On February 2, 2007, YEC issued a Request for Proposal (**RFP**) to five short listed and
5 pre-qualified bidders for engineering services for the CS/MS Project.”

6
7 **QUESTION:**

8
9 a) Please explain how the short-listed bidders were pre-qualified. Provide all
10 related correspondence and submissions related to the pre-qualification process.
11 b) Please provide an update on the RFP process and the anticipated timing of
12 completion.

13
14 **ANSWER:**

15
16 (a)

17
18 Potential bidders were identified through an Expression of Interest (**EOI**) process.
19 Advertisements were placed in Globe and Mail newspaper on September 5 & 8, 2006.
20 As well, the three affected First Nations and a number of specific engineering companies
21 that YEC was interested in were directly contacted and invited to participate. From
22 these two avenues, ten responses were received. An internal committee of managers
23 assessed the responses using a qualitative scale and five companies were deemed to
24 be acceptable.

25
26 (b)

27
28 The five proponents who were short-listed from the EOI in fall of 2006 were invited to bid
29 when the RFP was issued February 1, 2007. Three of these responded with proposals
30 by the Proposal closing date of February 23, 2007. Evaluation of these proposals is
31 currently proceeding. An award of contract is targeted for March 14, 2007.

1 **REFERENCE: Application, Section 3.2 – Timing Requirements and Conditions**

2
3 “Timing is critical to the viability of the Transmission Project, and in order to achieve an
4 in service date by late 2008 project construction must commence by the fall of 2007.
5 Consequently, pursuant to section 3.1 of the PPA, the following timelines must be
6 achieved:

7

8 • February 15, 2007: Minto will have received written approval from Macquarie of
9 Minto’s execution and delivery of this Agreement and the YEC Security and
10 Minto will have provided a copy of such approval to YEC;
11 • February 15, 2007: YEC will have entered into an agreement with Macquarie and
12 Minto governing the respective rights and obligations of each party;
13 • February 28, 2007: YEC will have completed its due diligence review of Minto
14 and the Mine.”

15

16 **QUESTION:**

17

18 a) Please confirm that the February timeline actions have been completed. If not,
19 then please provide an explanation of their status.
20 b) Please provide a copy of agreements, approvals and due diligence reviews
21 conducted as per this timeline.

22

23 **ANSWER:**

24

25 **(a) and (b)**

26

27 Copies of the Direct Agreement have been provided to all parties. For an update on due
28 diligence please see YUB-YEC-1-29.

1 **REFERENCE: Application, Section 4.1 – PPA Rates, Page 6, Footnote 5**

2
3 “The 2008 Firm Mine Rate outlined in Schedule C provides for \$15 kVA per month
4 (demand charge) and \$0.076 per kW.h (energy charge); together these rates equal
5 approximately 10 cents per KW.h for Minto Mine purchase of 32.5 GW.h per year of
6 electricity at a peak annual load of 4.4 kMA. This average rate includes the Demand
7 Charge and Energy Charge rates in the Schedule C Industrial Primary Rate, without
8 consideration of ongoing Fixed Charge provisions relating to ongoing monthly payments
9 by Minto for the Capital Contribution. Schedule C also includes provision for a Peak
10 Shaving Credit if Minto elects to nominate a Winter Contract Load as provided for in the
11 rate schedule.”

12
13 **REFERENCE: Application, Section 4.1.1 – Firm Mine Rate**

14
15 The Application includes evidence to confirm that this rate is in full compliance with
16 Order-in-Council 1995/90 and that the rate is sufficient to recover forecast 2008 costs of
17 service to the Major Industrial Customer class (see Attachment A).

18
19 **REFERENCE: Application, Appendix A, Section 1.0 – Introduction and**
20 **Overview**

21
22 “The Firm Mine Rate in the PPA was established based on the COS principles and
23 methods in Schedule E of the PPA.”

24
25 **QUESTION:**

26
27 a) Please provide details of YEC’s forecast of its total 2008 revenue requirement.
28 b) Please provide a paper copy and a working electronic copy of the cost of service
29 study used to determine that the proposed firm mine rate is sufficient to recover
30 that portion of YEC’s 2008 revenue requirement allocated to the industrial rate
31 class.
32 c) Please compare the cost of service study methodology used to develop the
33 proposed firm mine rate to the cost of service study methodology used in the
34 1996/97 General Rates Application involving both YEC and YECL.
35 d) Provide details of the functionalization, classification and allocation factors used
36 in the cost of service study used to calculate the proposed mine rate.

1 e) Provide detail of all costs (directly assigned costs, allocated costs, etc.) that are
2 proposed to be recovered through the proposed industrial rates.
3 f) Please compare the annual bill for the Minto mine under the proposed firm mine
4 rate versus under existing industrial rates.

5
6 **ANSWER:**

7
8 **(a) through (e)**

9
10 The relevant information is provided in each instance, to the extent it is available, in
11 Attachment A to the Application. YEC does not have an electronic copy of the COS
12 materials to provide for external use (in the past YECL/YEC electronic copies of COS
13 filings, although requested, have not been provided in YUB hearings).

14
15 Please also see responses to YUB-YEC-1-10 and 16, 18, 20, 21, 23, 24, 25, and 26.

16
17 **(f)**

18
19 The existing Rate 39 if applied to the Minto Mine load assumed in Schedule A-1 of the
20 Application would result in an average annual rate of 8.32 cents per kW.h plus a Rider F
21 charge of approximately 0.87 cents per kW.h¹ for a total average annual charge of
22 approximately 9.19 cents per kW.h.

23
24 In contrast, the Firm Mine Rate in Schedule C of the PPA yields an average annual rate
25 of 10.04 cents per kW.h.

¹ An adjustment to the current Rider F is estimated to reflect that it would then be recovered over the extra load provided by the Minto Mine.

1 **REFERENCE: Section 6(1) of OIC 1995/090**

2
3 "The Board must ensure that the rates charged to major industrial power customers,
4 whether pursuant to contracts or otherwise, are sufficient to recover the costs of service
5 to that customer class; those costs must be determined by treating the whole Yukon as a
6 single rate zone and the rates charged by both utilities must be the same".

7
8 **REFERENCE: Response to UCG-YEC-2-2, YEC 20-Year Resource Plan**

9
10 The OIC requires that a single Cost- of-Service (COS) study be prepared for the entire
11 Yukon (at least at the bulk power level) and that industrial customer rates be set so as to
12 be no lower than 100% cost of service (i.e., 1.00 Revenue: Cost ratio) assessed for
13 Yukon as a single rate zone and considering all relevant costs for both YEC and YECL.

14
15 As reviewed in detail at the 2005 Yukon Energy Required Revenues and Related
16 Matters Application, no current cost of service study has been prepared for Yukon since
17 the 1996/97 GRA, and no new industrial customers have connected to the system. For
18 this reason, the firm industrial rate in Yukon remains interim and refundable (since Board
19 Order 1998-5) and is expected to be finalized and confirmed for new industrial
20 customers only after a full COS study is performed for the Yukon as a whole, and that a
21 new rate based on this COS study is reviewed and approved by the Board.

22
23 **QUESTION:**

24
25 a) Please confirm that a full cost of service study has not been undertaken to
26 determine electricity rates in the Yukon since the 1996/97 GRA.
27 b) Please confirm that the proposed firm mine rate will be classified as interim and
28 refundable until a full cost of service study is performed for the Yukon as a whole
29 and a new rate based on the full cost of service study is reviewed and approved
30 by the YUB.

31
32 **ANSWER:**

33
34 (a)

35
36 Confirmed. See YUB-YEC-1-10.

37

1 **(b)**

2

3 This is a firm mine rate and is not interim or refundable. Section 3.5 of the PPA
4 acknowledges that the Firm Mine Rate may be amended from time to time by the PUB
5 after 2008. See response to UCG-YEC-1-17(2).

1 **REFERENCE: Application, Section 4.1.1 – Firm Mine Rate**

2
3 “YUB approval of the Firm Mine Rate, as set out in Schedule C of the PPA, is sought for
4 initial delivery of Mine Firm Electricity by YEC to Minto; approval is also sought for
5 Section 3.5 of the PPA with respect to any future adjustment of the Firm Mine Rate after
6 2008.”

7
8 **QUESTION:**

9
10 1. Please confirm that, if approved, the proposed Industrial Primary Rate and
11 adjustment mechanism will apply to all industrial loads in the Yukon.

12
13 **ANSWER:**

14
15 Per Schedule C of the PPA, the Industrial Primary Rate is applicable to all major
16 industrial customers served YEC engaged in manufacturing, processing or mining with
17 an electric service capacity in excess of 1,000 kW.

18
19 The consequences issuing from the “adjustment mechanisms” set out section 3.5 of the
20 PPA are specific to the PPA.

21
22 See also response to UCG-YEC-1-11 and YUB-YEC-1-16.

1 **REFERENCE: Application, Section 4.1.1 – Firm Mine Rate**

2

3 “Section 3.5 of the PPA confirms that the Firm Mine Rate may be amended by the YUB
4 from time to time after 2008. Section 3.5 also provides that, after 2008, if the Firm Mine
5 Rate is increased above the rate provided for in Schedule C by a decision of the YUB
6 that is made on the basis of cost of service principles and methods which are
7 inconsistent with the cost of service principles and methods in Schedule E of the PPA (or
8 the YUB alters the terms and conditions of the PPA), and such increase or alteration
9 materially adversely affects the cost savings to Minto under the PPA, then YEC and
10 Minto will be required to amend the PPA to reduce the Minimum Take-or-Pay Amount to
11 offset the loss of such cost saving to Minto and to amend the YEC Security so that it is
12 no longer provided as continuing security for the Minimum Take-or-Pay Amount under
13 Section 6.2 of the PPA.”

14

15 **QUESTION:**

16

17 a) Please confirm YEC’s understanding that it cannot charge any rate that has not
18 been approved by the YUB and that the proposed power purchase agreement is
19 deemed to include a clause under which the YUB has the jurisdiction, on
20 application of one of the parties, to increase or reduce the rate to a rate that the
21 YUB considers fair and reasonable.

22 b) Please confirm that the contemplated amendment to the YEC security in the
23 above referenced passage is an amendment to the amount of the security to
24 offset the lost cost savings, and not an elimination of the security obligation in the
25 event the PPA is amended to reduce the Minimum Take-or-Pay Amount. If the
26 amendment is intended to eliminate continuing security for the Minimum Take-or-
27 Pay Amount under Section 6.2, please provide the rationale and how YEC’s
28 other ratepayers are protected from a failure by Minto to provide the Minimum
29 Take-or- Pay Amount if the YEC security no longer applies to the Minimum Take-
30 or-Pay Amount.

31

32 **ANSWER:**

33

34 (a)

35

36 Confirmed as it applies to the PPA. See Public Utilities Act section 31: “any contract for
37 the supply of a service to a person by a public utility that sets a fixed or variable rate

1 either for a present or future supply of the service is deemed to include a clause under
2 which the board has the jurisdiction, on application of one of the parties, to increase or
3 reduce the rate to a rate that the board considers fair and reasonable."

4
5 **(b)**

6
7 Please see YUB-YEC-1-16 for a review of Section 3.5 provisions and related impacts.

8
9 The section provides for both an adjustment of the Minimum Take-or-Pay Amount as
10 noted, as well as removal of the continuing YEC Security as regards the Minimum Take-
11 or-Pay Amount under Section 6.2 (but not as regards other Minto obligations covered by
12 the YEC Security).

13
14 Further comments are provided below on the basis for Section 3.5 and related
15 considerations.

16
17 In entering into this Agreement, Minto is relying upon the continuance of the relatively
18 stable regulatory environment wherein decisions of the Board with regard to industrial
19 rates flow from relatively standard COS principles and methods as set out in OIC
20 1995/90 and in prior Board decisions based on OIC 1995/90. This provision was
21 required by Minto to provide some assurance that should the current environment with
22 regard to rate setting and rate regulation dramatically change to the extent that the cost
23 of Grid Electricity, due to such change, was less attractive than diesel generation, there
24 was some measure of relief available to mitigate significant losses.

25
26 It should be noted that section 3.5 operates to reduce the Minimum Take-or-Pay and
27 remove the YEC Security with regard to the Minimum Take-or-Pay in two circumstances:

28
29 1. if a decision of the YUB increases the Firm Mine Rate at any time after the YUB
30 approves the Firm Mine Rate in the form of Schedule C of the PPA, and that
31 decision is based on cost of service principles and methods inconsistent with the
32 cost of service principles and methods set out in Schedule E of the PPA; or
33 2. the YUB, in exercising its statutory jurisdiction, alters the terms and conditions of
34 the PPA and such increase or alteration materially adversely affects the cost
35 savings to Minto which arise under the PPA due to converting from diesel
36 generation to grid electricity supplied by YEC.

37

1 For any of the above two circumstances to result in the reduction of the Minimum Take-
2 or-Pay amounts or the loss of YEC Security with regard to the Minimum Take-or-Pay
3 amounts the actions of the Board must have a material adverse affect on Minto's cost
4 savings. A decision of the Board that contravenes the cost of service principles and
5 methods in schedules E or that alters the terms and conditions of the PPA on its own is
6 not enough—there must be an effect that is both adverse and material as noted.

7

8 The cost of service principles and methods set out in Schedule E of the PPA are based
9 upon OIC 1995/90, past orders of the Board based on OIC 1995/90 with regard to rates
10 charged to the Faro mine and costs of service assessments regarding such rates and
11 the Major Industrial Customer class, and specific requirements consistent with such past
12 principles and methods. For Section 3.5(a) to be operative, YEC understands that the
13 Board would have to dramatically alter how it determines cost of service and significantly
14 deviate from its own past decisions.

15

16 With regard to Section 3.5(b), the Board must exercise its statutory jurisdiction in such a
17 manner that the terms and conditions of the PPA are altered and a material adverse
18 effect ensues.

1 **REFERENCE: Application, Section 4.1.2 – Peak Shaving Rate Option**

2
3 “The Peak Shaving Rate Option included in the Firm Mine Rate in Schedule C of the
4 PPA provides a specified credit on the firm demand billing rate tied to limits on the
5 mine’s ability to affect peak winter loads on the WAF system.”

6
7 **QUESTION:**

8
9 a) Please provide a paper copy and a working electronic copy of the cost of service
10 study used to determine that the proposed peak shaving rate is sufficient to
11 recover that portion of YEC’s 2008 revenue requirement allocated to the
12 industrial rate class for this service.
13 b) Please identify where a peak shaving rate option has been approved by
14 regulators in other jurisdictions and under what circumstances.

15
16 **ANSWER:**

17
18 (a)

19
20 As noted in response to UCG-YEC-2-6(b), electronic copies are not available for
21 external use. Appendix A attached provides a copy of the table used for Attachment A to
22 the Application to assess the COS for the peak shaving rate option. Please see YUB-
23 YEC-1-33 for detailed review of this example.

24
25 Please see YUB-YEC-1-10 for a discussion of the rationale behind the COS analysis
26 conducted by YEC for purpose of seeking approval for the specific new firm industrial
27 rates set out in the PPA.

28
29 (b)

30
31 Peak shaving rates of one form or other are common in other jurisdictions as part of
32 DSM or fuel switching programs. For example, programs that have similar
33 characteristics to the peak shaving aspect of the proposed Rate Schedule 39 in Yukon
34 include the following:

35
36 • Manitoba Industrial Curtailable Service Program: provides large industrial
37 customers with a credit towards their bill to the extent they subscribe all or a

1 portion of their load to the rate offering. The rate requires that customers interrupt
2 their service on a given amount of notice (varies depending on the option the
3 customer elects – can range from 5 minutes to 48 hours) when required by the
4 utility.

5 • Newfoundland Interruptible B: This former rate is similar to the Manitoba rate
6 offering described above. It is no longer offered.

7 • Hydro Quebec Rate DT: provides residential customers with a rate offering that
8 has a temperature differential and automatic interruption of certain loads
9 (typically electric heat) below a specified temperature. This offering provides
10 lower cost energy to the customer when the temperature is warmer than the
11 defined cutoff point.

1 **Appendix A to UCG-YEC-2-10 – COS with Peak Shaving
2 Example**

3

Yukon Industrial Costs of Service- - 2008 estimate (\$000)

LOADS	Customers	Energy			Coincident Peak			Minto Non- Peak kW
		Sales MWh	Losses %	Generation MWh	Sales kW	Losses %	Generation kW	
Industrial								
Minto Mine	1	32,500	12.70%	36,627.5	2,934.8	14.70%	3,366.2	4,400.0
other	0	-	0.00%	-	-	0.00%	-	
sub total	1	32,500	12.700%	36,627.5	2,934.8	14.70%	3,366.2	
Other	15,750	292,000	11.81%	326,485	61,947	13.00%	70,000	
Total	15,751	324,500	11.90%	363,113	64,882	13.08%	73,366	
Industrial Share		0.006%		10.087%			4.588%	
								% of contract winter peak shaving 66.7%

cost escalation since 97

PRODUCTION COSTS	Total Yukon	Demand Costs			Energy Costs			Total Industrial Class Costs	cents/kW.h
		Classify %	Yukon Costs	Industrial Costs	Classify %	Yukon Costs	Industrial Costs		
Fixed Costs:									
Diesel Plant	4,302.8	100%	4,302.8	197.4	0%	-	-	197.4	0.0061
Whitehorse #4	7,824.3	0%	-	-	100%	7,824.3	789.2	789.2	0.0243
Other Hydro	3,845.0	40%	1,538.0	70.6	60%	2,307.0	232.7	303.3	0.0093
Wind	199.4	0%	-	-	100%	199.4	20.1	20.1	0.0006
Sub Total	16,171.5	36%	5,840.8	268.0	64%	10,330.7	1,042.1	1,310.1	0.0403
FTN added cost	544.0				100%	544.0	54.9	54.9	0.0017
Sec Sales Credit	(1,101.0)	0%	-	-	100%	(1,101.0)	(111.1)	(111.1)	(0.0034)
Fuel Expenses	4,786.0	0%	-	-	100%	4,786.0	482.8	482.8	0.0149
Wind O&M	91.2	0%	-	-	100%	91.2	9.2	9.2	0.0003
Other Production O&M	5,045.8	50%	2,522.9	115.8	50%	2,522.9	254.5	370.2	0.0114
Risk Insurance	546.7	32%	177.3	8.1	68%	369.3	37.3	45.4	0.0014
Revenue Offsets	(210.8)	33.4%	(70.5)	(3.2)	66.6%	(140.3)	(14.2)	(17.4)	(0.0005)
Admin & General	3,824.1	33.4%	1,278.8	58.7	67%	2,545.2	256.7	315.4	0.0097
Total Production Costs	29,697.5	33%	9,749.4	447.3	67%	19,948.1	2,012.2	2,459.5	0.0757
Minto Mine									
TRANSMISSION COSTS									
Specific Line (WAF)	690.9								
Mayo Dawson line	2,630.6								
Carmacks-Stewart (Stage 1)	924.6								
Other Lines	2,786.8	100%	2,786.8	127.9					
Total Transmission Costs	7,032.9		2,786.8	127.9					
Minto Mine									
DISTRIBUTION COSTS									
Accounting & Marketing	2,279.8								
Other	9,956.0								
Total Distribution Costs	12,235.8								
Minto Mine									
TOTAL COSTS	48,966.2		575.2	37.6		2,440.5	3,053.3		
net of new items	46,693		575.2	37.6		2,440.5	3,053.3	0.0939	

4

1 **REFERENCE: Application, Section 4.1.3 – Low Grade Ore Processing**
2 **Secondary Energy Rate**

4 “The Low Grade Ore Secondary Energy Rate is interruptible and available only from
5 surplus hydroelectricity supplies. It is only available for use in processing low grade
6 copper ore as defined in the rate schedule.”

7
8 **QUESTION:**

10 a) Please provide a paper copy and a working electronic copy of the cost of service
11 study used to determine that the proposed low grade ore processing secondary
12 energy rate is sufficient to recover that portion of YEC’s 2008 revenue
13 requirement allocated to the industrial rate class for this service.
14 b) Please identify where a low grade ore processing secondary rate has been
15 approved by regulatory in other jurisdictions and under what circumstances.

16
17 **ANSWER:**

18
19 (a)
20 There is no cost of service study used to determine the proposed Low Grade Ore
21 Processing Secondary Energy rate. This rate does not make up part of the revenue
22 requirement for the industrial rate class. See response to UCG-YEC-1-26(3).

23
24 (b)
25 See YUB-YEC-11(1). YEC designed this rate in response to PPA negotiations with Minto
26 Mine and in the absence of any other current potential customer discussions.

27
28
29 YEC is not aware of any other jurisdictions that currently offer a Low Grade Ore
30 processing secondary energy rate. YEC is aware, however, of other jurisdictions that
31 have approved rates for secondary electricity sales based on criteria other than purely
32 the embedded cost-of-service.

33
34
35 For example, since the closure of the Pine Point mine, the Northwest Territories Power
36 Corporation (“**NTPC**”) has had surplus hydroelectric generation available on the Taltson
37 system. In 1996, NTPC applied to the Northwest Territories Public Utilities Board

1 ("NWTPUB") for approval to sell excess hydroelectric generation for use in a hydrogen
2 demonstration project and for a district heating system. In evaluating the rate proposals
3 for the surplus electricity customers – the NWTPUB stated:

4

5 The Board recognizes that the usual rate-setting principles associated
6 with the determination of an interruptible rate are at odds with the unique
7 circumstances associated with the excess power on the Taltson system.
8 It is the view of the Board that where possible, normal rate-setting
9 principles should be adhered to in determining rates. However, the Board
10 also believes that the proposed rate should not be rejected out of hand as
11 the surplus power has not been utilized for some nine years and may
12 never be in the absence of the proposed district heating system.¹

13

14 The NWTPUB also stated in the same decision:

15

16 As a general principle, the Board concurs with the view that an
17 interruptible rate should be set to recover all incremental costs of the
18 service and provide the primary users on the system with tangible
19 benefits in terms of spreading the fixed costs.²

¹ Page 12, NWTPUB Decision 3-97.

² Page 11, NWTPUB Decision 3-97.

1 **REFERENCE: Application, Section 4.1.3 – Low Grade Ore Processing**
2 **Secondary Energy Rate**

3
4 “Service provided under this rate schedule will only be surplus energy remaining after
5 supplying customers served by Rate Schedule 32 Secondary Energy service.”

6
7 **QUESTION:**

8
9 1. Please identify when and under what circumstances the YUB has approved a
10 prioritization of customers to be served within a class receiving the same type of
11 service.

12
13 **ANSWER:**

14
15 There is no example of the YUB doing what is suggested, other than prioritization of a
16 type as between Rate 32 customers on automatic SCADA controls by the utility versus
17 those requiring manual disconnection, nor has this suggestion any relevance to the PPA
18 proposed rates.

19
20 Rate 35 and Rate 32 are different rates for different customers and different loads. Even
21 if the Mine was to elect to receive Rate 32 service as well as Rate 35 service, the
22 service would be different in each instance as defined by the rate terms and the loads
23 being served.

24
25 YEC has specifically designed Rate 35 in response to PPA negotiations with the Minto
26 Mine, and the PPA demonstrates agreement as to the terms. This is a specific type of
27 rate for a very specific type of customer, i.e., a mine site engaged in primarily copper
28 production for processing ore with less than 1% copper content, with a fixed rate, priority
29 behind Rate 32, various conditions affecting metering and reporting, etc. This rate
30 specifically applies at this time only to the Minto Mine. Although the rate may potentially
31 apply in future to other mine sites engaged primarily in copper production for processing
32 ore with less than 1% copper content, YEC intends to review the terminology in the
33 event that any other mine emerges that might potentially meet such a criterion in
34 circumstances where the rate might also be available due to surplus hydro still being
35 available.

36
37 See response to YUB-YEC-1-11.

1 **REFERENCE: Application, Section 4.1.3 – Low Grade Ore Processing**
2 **Secondary Energy Rate**

3
4 “In contrast, the Mine Feasibility Study released in July of 2006 assumed that the
5 stockpiled Low Grade Ore (mined in association with the high grade reserves)
6 constituting reserves would all be processed after completion of the six years of high
7 grade ore processing, thereby extending the Mine life by a further 4.6 years or some 3.4
8 years more than is currently committed.”

9
10 **QUESTION:**

11
12 1. Please provide a copy of the referenced Mine Feasibility Study.

13
14 **ANSWER:**

15
16 The full Mine Feasibility Study is confidential and not available for release. The quote is
17 based on information from the press release made public in July 2006 describing the
18 results of the Feasibility Study (this release is still posted on Sherwood's web site on
19 www.sherwoodcopper.com). Sherwood Copper regulatory filings, including technical
20 reports, are publicly available on www.sedar.com.

1 **REFERENCE: Application, Section 4.2.2 – Diesel Units at the Mine**

2

3 “The PPA requires YUB approval of provisions respecting the YEC purchase of the four
4 Diesel Units (each with a continuous rating of at least 1.6 MW) as set out under Part 10
5 of the PPA for \$2.24 million¹³, with YEC to provide payments to Minto in this regard on
6 the same basis as Minto’s Mine Spur Capital Cost Contribution payments, i.e., in equal
7 blended monthly payments of interest and principal over the first seven years of YEC
8 service. The negotiated Diesel Units Purchase Price for the assignment to YEC of the
9 Cat Leases for the Diesel Units reflects a proxy for the estimated market value in the
10 event that Minto had proceeded to buy out the Cat Leases and then sell these units to
11 other off-site users (as had been planned to occur after YEC commenced delivery of
12 Grid Electricity to the Mine).”

13

14 **QUESTION:**

15

16 a) Please provide documentation on how the negotiated purchase price reflects
17 estimated market value.

18 b) Please indicate whether YEC considered using the value of Minto’s diesel
19 generators as a security deposit similar to that required of other Yukon
20 ratepayers.

21 c) Please confirm that YEC will not acquire title to the diesel units before September
22 2009.

23

24 **ANSWER:**

25

26 (a)

27

28 YEC carried out internal review of both depreciated value (based on hours of assumed
29 operation and purchase price of new units), review of costs for other used diesel options
30 (as reviewed in Resource Plan regarding Mirrlees Life Extension options). Minto also
31 did its own assessments of potential resale values to others. YEC concluded that the
32 negotiated price was reasonable in light of the various options.

33

34 The negotiated diesel unit purchase price reflects a proxy for the estimated market value
35 in the event that Minto had proceeded to buy out the Cat Leases and then sell those
36 units to other off-site users as had been planned after YEC commenced delivery of Grid
37 Electricity to the Mine. The PPA provides that the Diesel Unit Purchase Price payable

1 by YEC provides for deductions from the \$2.24 million with regard to depreciation and
2 maintenance expenses related to actual use in excess of certain stipulated hours of
3 operation. The specifications for the diesel units are provided in Appendix G of the PPA.
4

5 **(b)**

6 See answer to UCG-YEC-1-9 and UCG-YEC-1-23.
7

8 **(c)**

9
10 Section 10.1 of the PPA sets out that upon Commencement of Delivery, YEC will
11 assume the Cat Leases from Minto. YEC will acquire title to the diesel units under
12 section 10.3(b) when all lease and other payments payable under the Cat Leases have
13 been paid by Minto and YEC is able to acquire title from Caterpillar free and clear of all
14 liens, charges, and encumbrances on or before September 6, 2009. YEC will receive
15 title once all lease payments and other payments required for YEC to receive title free
16 and clear of encumbrances have been made.
17

1 **REFERENCE: Application, Section 5.1 – No Adverse Impact on Ratepayers**

2

3 “Bringing Pelly Crossing ratepayers onto the hydro grid will in effect reduce second block
4 energy rates for ratepayers in this community supplied by Yukon Electrical. The “second
5 block” refers to rates for power consumed in excess of 1,000 kW.h per month for
6 residential customers and in excess of 2,000 kW.h per month for businesses. Currently,
7 these second block rates are 12.36 cents/kW.h for Small Diesel communities (Pelly
8 Crossing’s current zone) and 10.45 cents/kW.h for Hydro zone, excluding all riders and
9 taxes.”

10

11 **QUESTION:**

12

13 a) Please provide details of any discussions / correspondence with YECL and the
14 ratepayers in Pelly Crossing concerning the transfer of these customers to the
15 hydro grid.

16 b) Please confirm that the rates currently charged in the Small Diesel and Hydro
17 rate zones have not be subject to any cost of service study or rate design review
18 for at least 10 years.

19

20 **ANSWER:**

21

22 (a)

23

24 No detailed discussions have occurred to date with YECL, although initial discussions as
25 to the route and substation site at Pelly Crossing took place last fall.

26

27 (b)

28

29 The last general rate change (other than rate riders) and complete cost of service study
30 for all Yukon ratepayers was in 1996/97 GRA filing by YEC and YECL.

1 **REFERENCE: Application, Section 5.1 – No Adverse Impact on Ratepayers**

2
3 “YEC will establish a deferral account (the “Mine Net Revenue Account”) to ensure that
4 incremental annual Mine Net Revenues (or net costs) do not affect YEC earnings or the
5 determination of the revenue requirements affecting other ratepayers in Yukon.”

6
7 “These provisions under Section 3.6 of the Agreement set aside positive net incremental
8 earnings due to power sales to the Mine, retaining these net earnings as reserves to
9 offset rate base costs and as protection against any potential future negative earnings
10 related to the Mine activities.”

11
12 **QUESTION:**

13
14 a) If any rate charged to an industrial customer such as Minto would have to
15 recover 100% of the fully allocated cost of service for providing the mine with
16 electricity, please explain how any amount would end up in this deferral account.
17 b) It is UCG’s understanding that ratepayers as a whole become exposed to the
18 cost, and therefore the adverse impact of the Project once phases of the Project
19 are put into rate base, through increased return on rate base for YEC. What is
20 YEC’s proposal for adding the various phases of the Project to rate base?
21 Assuming that the proposal is to add phases of the Project to rate base in the
22 year they become operational as opposed to a proposal to keep the phase of the
23 project out of rate base, is it YEC’s proposal to put the return on rate base and
24 depreciation amounts attributable to the Project into the Mine Net Revenue
25 Account as a way to protect ratepayers from the costs of the project?

26
27 **ANSWER:**

28
29 (a)

30
31 See response to UCG-YEC-1-23.

32
33 (b)

34
35 See response to UCG-YEC-1-1 as regards rate base matters, YUB-YEC-1-15 as to
36 operation of the Mine Net Revenue Account, and UCG-YEC-1-9(2) for incremental
37 annual revenues and costs to this account (including CS Project expenses and returns).

1 **REFERENCE: Application, Section 5.1 – No Adverse Impact on Ratepayers**

2
3 “Upon commencement of delivery, YEC will acquire four 1.6 MW trailer mounted Diesel
4 Units from Minto which will help to provide added security and also provide opportunities
5 to minimize WAF system costs under certain circumstances.”

6
7 **QUESTION:**

8
9 1. Please confirm that YEC will not acquire title to the diesel units until Minto pays
10 to Caterpillar all lease and other amounts payable under the Cat Leases and
11 pays the amount required to be paid on the termination or expiry of the Cat
12 Leases on or before September 6, 2009.

13
14 **ANSWER:**

15
16 See response to UCG-YEC-2-14(c).

17
18 Upon Commencement of Delivery YEC will assume the Cat Leases from Minto and
19 Sherwood provided the conditions to assignment under section 10.2 are satisfied or
20 waived. Upon assignment, YEC will be responsible for the operation and maintenance of
21 the diesel units and the diesel units will be at the risk of YEC. Minto's obligation to assign
22 the Cat Leases to YEC is conditional upon Minto and Sherwood receiving a full release
23 from Caterpillar of Minto and Sherwood's obligations under the Cat Leases.

24
25 Under 10.3(a) YEC agrees to pay Minto the Diesel Unit Purchase Price plus interest in
26 equal blended payments at the beginning of each month from Commencement of
27 Delivery until the seventh annual payment date. Under 10.3(b) Minto agrees to pay
28 Caterpillar on behalf of YEC as and when required under the Cat Leases all lease and
29 other payments payable under the Cat Leases and Minto will pay the amount required to
30 be paid on the termination or expiry of the Cat leases for YEC to acquire title to the
31 Diesel Units from Caterpillar, free and clear of all liens, charges, and encumbrances on
32 or before September 6, 2009.

1 **REFERENCE: Application, Section 5.1.1 – Capital Cost Contributions**

2
3 “At the date of the Agreement the Capital Costs of the Mine Spur are estimated at \$3.83
4 million; however, as provided in Section 5.1 of the PPA, within 30 days of the
5 Transmission Project Start Date YEC will provide Minto with a revised estimated based
6 upon received tenders.”

7
8 **QUESTION:**

9
10 1. Given the uncertainty of the costs of the mine spur, please explain how the YUB
11 can respond to YEC’s request for approval of provisions respecting the Capital
12 Cost Contributions.

13
14 **ANSWER:**

15
16 The point of the question is unclear, as under the PPA all actual costs of the Mine Spur
17 are to be paid by Minto under the Capital Cost Contribution. The only specific risk to
18 YEC in this regard is loss of interest during construction on the Mine Spur capital costs
19 after January 1, 2009 if in-service is delayed after September 30, 2009.

20
21 The amount quoted in section 5.1 of the PPA is the best estimate at this time and
22 provision has been made to adjust this amount after construction tenders are received.
23 Minto is committed to pay the full costs of the Mine Spur with some provision for
24 adjustment as to timing of payments if the costs exceed \$4.8 million under s. 5.5 of the
25 PPA (payments will be extended by 2 years provided additional reserves are confirmed
26 and the payments will not go beyond the date which Minto confirms in writing to the
27 satisfaction of YEC, that the ore reserves at the mine are planned to be processed at the
28 Mine at the Daily Processing Level).

1 **REFERENCE: Application, Section 5.3 – How the PPA will Apply to Other**
2 **Industrial Customers**

4 “Section 5.7 of the PPA provides that New YEC Industrial Customers, as defined in the
5 PPA, will be required by YEC to pay a Capital Cost Contribution for their appropriate
6 share of Capital Costs of the CS Project and any spur lines.”

7

8 **QUESTION:**

10 1. Please confirm that this provision applies to any industrial load and not just those
11 that would be classified as YEC customers.

12

13 **ANSWER:**

15 Section 5.7 applies to New YEC Industrial Customers which are defined as “a YEC
16 Major Industrial Customer, other than Minto, that receives Grid Electricity from the
17 Transmission Project or the CS Project.” The provision specifically applies to YEC Major
18 Industrial Customers that would receive Grid Electricity from either the Transmission
19 Project or the CS Project and would not apply to other customers.

1 **REFERENCE: Response to UCG-YEC-2-29, YEC 20-Year Resource Plan**

2

3 "The following is a list of incurred costs to conduct technical and costing assessments of
4 the Resource Plan near term projects, and estimates to complete all work related to
5 "decision making": Carmacks-Stewart Transmission Project: \$939,000 for environmental
6 and technical assessment and work required to complete project description for YESAB
7 review, discussions with First Nations and potential industrial customers, covering all
8 aspects of the activities set out in YUB-YEC-2-21(j).

9

10 As set out in the Supplemental Materials Tab 2, the planning, permitting, consultation,
11 design and tender activities associated with this project are forecast at \$3 million. To
12 date, YEC has received a commitment of \$450,000 in YTG funding towards this cost."

13

14 **QUESTION:**

15

16 a) Please provide an update on all costs incurred to date for the Carmacks-Stewart
17 transmission Project including the costs associated with the proposed power
18 purchase agreement and associated due diligence activities. Provide details of
19 these costs including but not limited to legal costs, outside engineering and
20 consultant costs (by firm) and internal costs broken down by salaries, supplies
21 and services, and overheads.

22 b) Please explain the conditions of the funding provided to date by the Yukon
23 government and details of the costs paid by this funding.

24 c) Please provide details of any additional infrastructure funding support that the
25 Yukon government has committed for this project.

26 d) Please provide details of when YEC's Board of Directors gave approval to
27 proceed with the proposed project.

28

29 **ANSWER:**

30

31 **(a)**

32

33 To the end of February it is estimated the YEC has spent approximately \$1.8 million on
34 the CS project of which \$0.45 million was the YTG contribution. Detailed allocation of the
35 costs cannot be determined at this time.

1 **(b) and (c)**

2

3 Yukon Government funding to date for the CS Project equals \$450,000 and related to
4 costs incurred in the initial planning leading to the MOU with NTFN and initial
5 consultations and work towards preparing the YESAB submission. No additional
6 infrastructure funding support has been committed to date for this project.

7

8 **(d)**

9

10 YEC's Board of Directors has monitored progress on the project on an ongoing basis
11 through the past year, and provided approvals only as required for each subsequent
12 step.

1 **REFERENCE: UCG 1-1 – Rate Base and Impacts to Ratepayers**

2
3 **QUESTION:**

4

5 a) Please provide a continuity schedule for YEC's regulated rate base starting with
6 YUB-approved for 2004 through forecast 2010. This schedule should be broken
7 down by rate base component (i.e., gross plant, accumulated depreciation, etc.)
8 using YEC's current capital expenditures estimates and with the proposed
9 Transmission Project specifically identified in each component.

10 b) Please indicate YEC's confidence level in the current cost estimates for the
11 proposed Transmission Project.

12
13 **ANSWER:**

14
15 (a)

16

17 YEC is not able to provide such a continuity schedule at this time, nor is it apparent what
18 relevance these details (which go far beyond costs relate to the PPA, or the CS/MS
19 Project) have for the current review of the PPA. YEC's last update of its financial
20 forecast for 2007 has been provided earlier to the YUB as part of its annual financial
21 review.

22
23 (b)

24

25 YEC continues to decline to provide any specific confidence level to current cost
26 estimates – the status of these estimates has not changed since the Resource Plan
27 hearing and will remain unchanged until preliminary engineering and costing is
28 completed in May.

29

30 As reviewed in the Resource Plan hearing (see YEC Reply Argument at page 8), YEC's
31 filings in that hearing on the CS Project (which have been summarized in the Application
32 at Schedule 1) set out a range of potential line-related capital cost estimates (2005\$) to
33 reflect uncertainties regarding the impact of tight labour market conditions in Western
34 Canada and other factors (e.g., raw material cost increases). YEC notes that it is
35 generally understood that many projects in Western Canada have recently experienced
36 market-related cost escalations that went materially beyond cost range expectations
37 based on stage of engineering design achieved prior to tendering. Reasons why YEC

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- 1 cannot give definitive answers at this time on this matter were reviewed in the resource
- 2 Plan hearing.¹

¹ See Campbell and Osler, Transcript pages 533 through 535.

1 **REFERENCE: Application, Section 5.3 – Forecast Costs by Function**

2
3 “Carmacks-Stewart (Stage 1) – a new cost element not included in the 1997 GRA;
4 estimate of depreciation and return on rate base (at 7.5%) per final mid-November 2006
5 filing with YUB in YEC Resource Plan hearing.”

6
7 **QUESTION:**

8
9 a) Please confirm that the last rate of return on equity for YEC approved by the YUB
10 was 9.05% per Board Order 2005-12.
11 b) Please provide details of the calculation of the referenced 7.5% rate of return on
12 rate base for 2008.

13
14 **ANSWER:**

15
16 (a)

17
18 Confirmed.

19
20 (b)

21
22 The calculation assumes the following:

23
24 • 60/40 debt to equity
25 • Equity return at last approved ROE of 9.05%
26 • Long term debt cost assumed at approximately 6.47%. Based on YEC's and
27 YDC's long established relationship between Long Canada Bond values and
28 long-term debt of 120 basis points, this is consistent with benchmark long
29 Canada bond yields of 5.27%, or about 1.2% higher than current trading levels.
30 (By way of comparison to current market conditions, the benchmark long Canada
31 bond yield reported on March 4, 2007 was 4.08%, or more than 1.1 percentage
32 points lower than the debt cost assumptions underlying the PPA Cost of Capital
33 fixed value.)

1 **REFERENCE: Application, Section 4.2.2 – Diesel Units at the Mine; UCG 1-7**

2

3 “After completion of the Transmission Project connecting the Mine to the WAF grid,
4 YEC’s purchase of the Diesel Units at the Mine Site will in effect add 6.4 MW of
5 reasonably low cost and low risk diesel capacity to the WAF system.”

6

7 “In the near term these units provide cost effective contingency protection until such time
8 as other potential major mine loads (Carmacks Copper) as well as capacity supply
9 options are better clarified.”

10

11 **QUESTION:**

12

13 a) Please explain why these “contingency” units should be classified as “used and
14 useful” and placed into YEC’s regulated rate base. Please provide examples of
15 when the YUB has previously allowed similarly contingent plant into rate base.

16 b) Please identify the source for YEC’s determination that the YUB must approve
17 the purchase of these diesel units.

18

19 **ANSWER:**

20

21 **(a)**

22

23 See YUB-YEC-1-8 for discussion of the Diesel Units and their role and benefits to the
24 system. YEC approval of diesel capacity spending as required for capacity planning
25 criteria address contingencies, as discussed in the Resource Plan hearing with regard to
26 Mirrlees Life Extension Project costs recommended by the Board in its January 15, 2007
27 Report.

28

29 **(b)**

30

31 Under the Public Utilities Act the Board must set rates and determine the rate base for a
32 public utility. Beyond these matters, the YUB does not have specific authority at this time
33 to approve utility spending.

1 **REFERENCE: Appendix E – Power Purchase Agreement, page 14, paragraph**
2 **3.1 (f)**

3
4 “On or before May 31, 2007, Minto will have executed and delivered to YEC the YEC
5 Security and YEC will have registered the YEC Security in all registries required to
6 perfect the YEC Security, such that the YEC Security ranks second only to the
7 Macquarie Financing generally and third only to MRI and Macquarie on the Copper
8 Concentrate or if MRI, as a result of any changes to the MRI Agreement, no longer has
9 security over the Copper Concentrate the YEC Security will rank second on the Copper
10 Concentrate behind the Macquarie Financing;”

11
12 **QUESTION:**

13
14 a) Please provide all information and documents that set out the following:
15 i. the amount of the Macquarie Financing “generally” related security obligation
16 that ranks ahead of the YEC Security,
17 ii. the amount of the MRI security obligation that ranks ahead of the YEC
18 Security with respect to the Copper Concentrate,
19 iii. the amount of the YEC Security obligation,
20 iv. the value of the assets to which the Macquarie Financing “generally” related
21 security obligation and the YEC Security attach,
22 v. the value of the Copper Concentrate assets to which the Macquarie
23 Financing “generally” related security obligation, MRI security obligation, and
24 the YEC Security.
25 b) Please provide the amounts referred to in a) on a projected annual basis to
26 illustrate, if Minto were to cease operations and trigger the Macquarie, MRI and
27 YEC security obligations at the end of any of Years 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10,
28 what the projected recovery of YEC of the obligations outstanding to it from Minto
29 would be with respect to its security over Minto’s assets after accounting for the
30 value of the encumbered assets and the amounts recovered by Macquarie and
31 MRI under their respective securities.

1 **ANSWER:**

2

3 **(a)**

4

5 In response generally to (a)(ii) - (v), due to confidentiality agreements, copies of the
6 Macquarie Bank and MRI documents cannot be released. However, in an attempt to be
7 helpful,

8

9 • the Macquarie Bank Project Finance Agreement and security contemplates a
10 maximum indebtedness of \$US57,788,051,
11 • the Macquarie Bank Subordinated Project Finance Agreement has been or will
12 soon be paid out from the proceeds of the unsecured debenture offering by
13 Sherwood,
14 • the repayment schedule for the Macquarie Bank Project Finance facility
15 contemplates payments to commence in November of 2007 and the loan to be
16 repaid by November 2009,
17 • MRI will have a prior security interest in the concentrate which it has paid for but
18 which has not been delivered due to river conditions. The amount secured will
19 not exceed \$US 20 million. This facility will be repaid from time to time as the
20 concentrate is delivered by Minto.

21

22 **(b)**

23

24 Please see response to YUB-YEC-1-32 as regards review of a default by Minto on its
25 financial obligations to YEC. The type of detail requested in the question simply cannot
26 be reasonably determined and accordingly further details cannot be provided by YEC.

1 **REFERENCE: Appendix E – Power Purchase Agreement, page 16, s. 3.5**

2
3 “3.5 YUB Decision on Firm Mine Rate

4
5 The Parties acknowledge that the Firm Mine Rate was established based on the cost of
6 service principles and methods in Schedule E and that the Firm Mine Rate may be
7 amended by the YUB from time to time after 2008. Notwithstanding Section 6.5:

8
9 a) if the Firm Mine Rate is increased at any time after approval by the YUB of the
10 Firm Mine Rate in the form of Schedule C on the date of execution and delivery
11 of this Agreement by a decision of the YUB made on the basis of cost of service
12 principles and methods which are inconsistent with the cost of service principles
13 and methods in Schedule E; or
14 b) if the YUB, in exercising its statutory jurisdiction, alters the terms and conditions
15 of this Agreement; and
16 c) such increase or alteration materially adversely affects the cost savings to Minto
17 under this Agreement arising due to the conversion from reliance on electricity
18 from diesel generation at the Mine Site to Grid Electricity;

19
20 the Parties will amend and restate:

21
22 d) this Agreement to reduce the Minimum Take or Pay Amount to offset the loss of
23 such cost savings to Minto; and
24 e) the YEC Security so that the YEC Security is no longer provided as continuing
25 security for the Minimum Take or Pay Amount under Section 6.2.”

26
27 **QUESTION:**

28
29 1. It appears from the wording of section 3.5 of the PPA that the parties specifically
30 contemplate that the YUB may change the Firm Mine Rate after 2008, but do not
31 specifically contemplate that the YUB may approve a Firm Mine Rate in this
32 proceeding other then the one proposed in Schedule C to the application. In the
33 event the YUB approves a new Firm Mine Rate in this proceeding different then
34 the one requested in Schedule C, is it intended that s. 3.5 (b), (c), (d), and (e) of
35 the PPA would be triggered in the event the different rate materially adversely
36 affects the cost savings to Minto, or would the approval of a different Firm Mine

1 Rate then the one proposed in Schedule C be treated in some other way under
2 the PPA, and if so in what way?

3

4 **ANSWER:**

5

6 Section 3.5 only operates after the 2008 Firm Mine Rate set out in Schedule C has been
7 approved by the Board, and the Board proceeds to change this rate after 2008.

8

9 Section 3.1(a)(i) requires that on or before April 30, 2007 the Firm Mine Rate for initial
10 delivery of Firm Mine Electricity by YEC to Minto and section 3.5 of the PPA respecting
11 future adjustment of the Firm Mine Rate must be approved. Since the condition is to the
12 benefit of both Parties, it may only be waived, altered or the time period extended by
13 agreement between both parties; therefore, if YEC proposed a new Firm Mine Rate
14 different from the rate proposed in Schedule C of the PPA, the Parties would have to
15 come to an arrangement with regard to 3.1(a)(i) before section 3.5 became a
16 consideration. If Minto and YEC cannot together agree on altering the provision, waiving
17 the provision or an extension of time with regard to the provision, the PPA would
18 terminate and consideration of 3.5 would be moot.

19

20 See response to YUB-YEC-1-16.

1 **REFERENCE: Application, Page 4, Schedule 1**

2
3 **QUESTION:**

4

5 a) The note to Schedule 1 at the top of page 4 states that the Schedule “Excludes
6 consideration of any additional Yukon Government funding required to prevent
7 adverse ratepayer impacts”. Is it YEC’s position that Yukon Government funding
8 would only be required under the “High Costs” Scenario, and that the funding
9 would be in the amount of approximately \$2.81 million in accordance with the
10 Schedule?

11 b) The note to Schedule 1 at the top of page 4 says the schedule excludes
12 consideration of Carmacks Copper Mine; please provide a full update with
13 respect to the state of the proposed Carmacks Copper Mine and its potential
14 impact on the Project.

15 c) Does YEC intend to seek Yukon Government funds to prevent adverse ratepayer
16 impacts in the event that YEC does not recover some or all of the Minto Capital
17 Contributions or the Minto Mine net Revenues, either from Minto directly or from
18 enforcement of the YEC Security provided for under the PPA?

19 d) Please provide the net benefits of connecting the Minto Mine directly, without
20 undertaking the Project, for comparison to the “Overall Project Net Benefits
21 (Costs)” provided in Schedule 1 of \$7.59 million for the low costs, \$2.39 for the
22 mid point costs, and (\$2.81) for the high cost estimates. By UCG’s rough
23 calculation, assuming Minto would be solely responsible for the costs of
24 connecting themselves to the grid, the net benefit to other ratepayers would be
25 approximately \$13.6 million from the Minto Mine net revenues assuming the Firm
26 Mine Rate as proposed was appropriate.

27
28 **ANSWER:**

29
30 (a) and (c)

31
32 On Yukon Government funding, see response to UCG-YEC-2-20(c) – no further Yukon
33 Government funding is currently contemplated for Stage One of the CS Project.

1 **(b)**

2

3 No YEC discussions are ongoing at this time with Carmacks Copper – YEC understands
4 that the Carmacks Copper Mine is currently proceeding through YESAB review with the
5 project defined to rely solely on use of on-site diesel generation.

6

7 **(d)**

8

9 UCG's assessments appear to assume full Stage One and Stage Two development,
10 rather than only the Stage One development relevant at this time (Stage One benefits
11 vary from \$4.69 million to \$10.59 million NPV in 2005\$).

12

13 As noted in YUB-YEC-1-34, there is no option available that would have Minto pay the
14 full cost to interconnect as an alternative to the Project. Such an approach would not
15 only forego the obvious long-term infrastructure benefits of the Project as proposed, but
16 would also forego other clear opportunities at this time, if it could even be developed:

17

- 18 • Both the Yukon Government \$0.45 million contribution and the proposed YDC
19 contribution of \$5.0 million towards this project are contingent on developing
20 suitable long-term infrastructure, not simply a radial, short-duration and
21 single-purpose line serving Minto.
- 22 • Absent the 138 kV development, the service would fail to enable the potential for
23 further future development of transmission north of Minto Landing, which is an
24 essential component of the project with respect to securing First Nations
25 agreement.¹

26

27 In addition, the industrial rate as calculated includes a component to address the costs
28 of the Carmacks-Stewart project (comprising about 3% of the Minto rate or about 0.3
29 cents/kW.h) so the benefits cited above would be reduced be an equal share.

30

31 Please see response to YUB-YEC-1-7 and 34 as regards assessment of options where
32 YEC does not pursue the CS Project long-term infrastructure development and focuses
33 only on serving the Minto mine.

¹ The MOU with NTFN also clearly assumes that support for Stage One development assumes extension of WAF grid service to Pelly Crossing as well as the Minto Mine. In this regard, a 35 kV extension from Minto Landing to Pelly Crossing might be considered – but this would need as to long-term economics of such single community extension that (due to the line voltage) cannot in any useful way contribute towards further extension to connect the WAF and MD grids. Absent approval and commitment to maintain such a line to Pelly Crossing, any 35 kV connection to serve only the Minto Mine would need to include Minto's agreement to pay all costs to decommission the full line at the end of the Mine's life.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Background**

2
3 “C. It is the Parties’ intention that other ratepayers in the Yukon Territory will not be
4 adversely impacted by the costs of the Transmission Project required to provide Grid
5 Electricity to the Mine”.

6
7 **QUESTION:**

8
9 a) Please confirm that the term “ratepayers” refers to customers of both YEC and
10 Yukon Electrical Company Limited.
11 b) Please provide YEC’s understanding of any difference between Yukon electricity
12 ratepayers and Yukon taxpayers. UCG is especially interested in understanding
13 how contributions from government sources of taxpayer funds doesn’t impact
14 electricity ratepayers.
15 c) Please describe the public consultations conducted on the proposed new
16 industrial rates and any comments received pursuant to this consultation.

17
18 **ANSWER:**

19
20 (a)

21
22 Confirmed.

23
24 (b)

25
26 Ratepayers are utility customers who pay a Board determined rate for services provided
27 by a public utility. A taxpayer is a person who pays tax or is liable to pay tax or subject
28 to taxation. The difference is well understood for policy purposes, even if in many cases
29 the same people are involved. Risk and impacts of an expenditure also can change
30 materially depending on the funding source.

31
32 (c)

33
34 On December 21, 2006 the Term Sheet was provided to the public which provided
35 background information on the PPA and set out the key terms and conditions that were
36 agreed upon as between the Parties. Although no formal YEC consultations were held,
37 the public had a chance to respond and interested parties provided responses as well to

1 the YUB. YEC discussed these responses and the concerns raised in a response letter
2 to the YUB dated January 8, 2007. Concerns raised included concerns about process
3 and timing, confusion between the Term Sheet document and the final PPA to be later
4 reviewed by the YUB, concerns regarding the proposed rates and the proposed YEC
5 Security and payment schedules.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Definitions**

2
3 "g. "Affiliate" for a Party means..."

4
5 **QUESTION:**

6
7 a) Please provide the names of members of the Boards of Directors of Yukon
8 Energy Corporation and Minto Explorations Ltd.
9 b) Please provide the names of all affiliates to YEC and Minto and the names of
10 members of their respective Boards of Directors.

11
12 **ANSWER:**

13
14 (a) and (b)
15
16 The members of the Board of Directors of YEC and YDC are publicly available and are
17 listed on the YEC website.

18
19 The Board of Directors of Yukon Energy Corporation and are as follows:

20
21 • Pat Irvin
22 • Paul Hunter
23 • Paul Birckel
24 • Patrick James
25 • Greg Hakonson
26 • Martin Allen
27 • Barb Joe

28
29 YEC does not have a complete list of Board members of Minto or its affiliates. The
30 Minto Explorations Ltd. Board of Directors and Advisory board may be found at
31 <http://www.sherwoodcopper.com>.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Definitions**

2
3 "(hhhh). "Route" means the route for the Transmission Project as authorized by
4 Government Approvals which, as at the date of this Agreement..."

5
6 **QUESTION:**

7
8 1. Please confirm that as of February 8, 2007, there have been no Government
9 Approvals provided for the proposed route of the Transmission Project.

10
11 **ANSWER:**

12
13 No such approvals may be provided until the YESAB Executive Committee review has
14 been completed. The PPA definition as referenced in effect states that the attached
15 schedules reflect the route as currently planned and submitted to YESAB for screening.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 3.5**

2
3 "The Parties acknowledge that the Firm Mine Rate was established based on the cost of
4 service principles and methods in Schedule E and that the Firm Mine Rate may be
5 amended by the YUB from time to time after 2008."

6
7 **QUESTION:**

8
9 a) Please confirm that the YUB has the jurisdiction to approve an initial Firm Mine
10 Rate different from those proposed in this Agreement and that this approval
11 could be given in 2007 or 2008.
12 b) Please explain why staying with on-site generation would not be a viable
13 alternative to being served by the grid if grid-based rates became unattractive to
14 Minto.
15 c) Please explain how Yukon electricity ratepayers and taxpayers are not put at risk
16 if the Minimum Take-or-Pay Amount is reduced to offset cost savings to Minto.

17
18 **ANSWER:**

19
20 **(a)**

21
22 The YUB has the discretion to set just and reasonable rates for service in the Yukon,
23 and has the jurisdiction to set a rate other than the Firm Mine Rate set out in Schedule
24 C; however, a Firm Mine Rate other than that set out in Schedule C of the PPA would
25 result in a termination of the PPA if the Parties could not agree to vary or waive condition
26 3.1(a)(i).

27
28 **(b)**

29
30 It is apparent that Minto has the available option to continue with on-site diesel
31 generation. The Mine has been planned and financing secured solely on this basis.
32 There is no doubt that Minto can, in short, proceed if the PPA is not approved as
33 proposed. The implications are also apparent as to diesel emissions plus the loss of the
34 YEC opportunities set out in the Application.

35
36 In this PPA Minto is committing to Capital Cost payments for both the Mine Spur and for
37 the Carmacks-Minto Landing line infrastructure under section 5.2 of the PPA as well as

1 Decommissioning Costs for the Mine Spur. Minto is also committing to a \$24 million
2 take-or-pay arrangement under section 6.2 of the PPA as well as agreeing to purchase
3 minimum amounts of grid electricity under section 4.1 of the PPA. Under section 10.1 of
4 the PPA it is anticipated that Minto will be assigning the Cat Leases to YEC and two
5 years after such assignment YEC may elect to sell off two of the units or remove such
6 units from the mine site.

7

8 In summary, in entering into this PPA Minto is taking on a range of material costs (and
9 risk) in terms of capital payments and the take-or-pay amounts with the understanding
10 that YEC's regulatory environment will remain relatively stable and electricity rates will
11 not increase dramatically beyond a range that is normal or predictable in the Yukon such
12 that the cost savings in converting from diesel generation to grid electricity would be lost.
13 Switching to on-site generation after proceeding with the PPA would not mitigate the
14 capital cost or the take-or-pay arrangements owing.

15

16 (c)

17

18 Please see YUB-YEC-1-16 as well as UCG-YEC-2-9(b) and 25.

19

20 Minto is still obligated by all other terms and conditions of the PPA. The impact on other
21 ratepayers in such an event will depend on the value of the take-or-pay commitments
22 that are reduced and the security no longer provided with regard to all take-or-pay
23 commitments.

1 REFERENCE: Appendix E - Power Purchase Agreement, Section 3.6

2

3 QUESTION:

4

7

8 ANSWER:

9

10 YEC will include the Mine Net Revenue Account in its ongoing annual reporting,
11 including the Minto Power Bill components and the Incremental YEC Costs components
12 as described in the PPA, along with accrued interest earned in accordance with section
13 3.6 of the PPA.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 4.1**

2
3 "Minto anticipates that the Mine's heat requirements will be supplied through the use of
4 propane."

5
6 **QUESTION:**

7
8 a) Please provide details on the amount of propane expected to be needed by the
9 Mine and the anticipated supplier of that propane.
10 b) Assuming that the propane supplier will be a Yukon business, please comment
11 on the impact on that supplier and the Yukon economy should the Mine elect to
12 use secondary energy instead.

13
14 **ANSWER:**

15
16 **(a) and (b)**

17
18 YEC is not aware of the amount of propane expected to be needed by the Mine, or the
19 anticipated supplier of that propane, and has no information on the impacts requested.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Sections 4.2 and 4.3**

2
3 "Minto will provide to YEC annual written forecasts of the Grid Electricity requirements of
4 the Mine at the Point of Delivery for the succeeding five calendar years so as to allow
5 YEC to forecast the future loads on its facilities."

6
7 "Six months in advance of each calendar year end, starting in July 2008, YEC will
8 provide to Minto annual written forecasts of the expected availability of surplus
9 hydroelectric generation for purchase by Minto as Secondary Mine Processing Energy
10 Electricity during the next five calendar years, with estimates by month for the first of
11 these five years."

12
13 **QUESTION:**

14
15 a) Please describe the reporting, if any, to the YUB that will be undertaken with
16 respect to these forecasts.
17 b) Please confirm that YEC does not go through the same forecasts exchange with
18 existing secondary energy customers.
19 c) Please outline how the additional costs associated with this forecasting exchange
20 will be directly recovered from Minto and not other ratepayers.
21 d) Please outline the process that will be undertaken to estimate the secondary
22 energy requirements with existing customers prior to forwarding the expected
23 availability of surplus hydroelectric generation to Minto.

24
25 **ANSWER:**

26
27 (a)

28
29 No reporting to the YUB is to be undertaken with respect to these forecasts.

30
31 (b)

32
33 Confirmed.

1 **(c) and (d)**

2

3 YEC does not anticipate any material additional costs and will not seek to recover such
4 costs from Minto. To estimate the secondary energy requirements for existing
5 customers, YEC will review available records and readily available information with
6 YECL as to the status of these accounts.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 4.6**

2
3 "Minto will regulate its electrical load so that the Power Factor for the Minto Mine is
4 maintained within a reasonable operating range."

5
6 **QUESTION:**

7
8 a) Please provide details of a "reasonable operating range" for a customer like the
9 Minto mine.
10 b) Please confirm that the Minto mine will be metered in both kW and kVA.
11 c) Please indicate the cost of the required metering and confirm that the cost of the
12 metering will be recovered from the Mine and not other ratepayers.

13
14 **ANSWER:**

15
16 (a)

17
18 The range for acceptable industrial power factors varies depending on the system. In
19 most southern jurisdictions, there is a desire to ensure industrial customers have a very
20 high power factor as part of the terms of their contract or rate schedule. For Minto,
21 however, being connected to a relatively lightly loaded line, YEC would not target the
22 same high level of power factor. At this time, a Minto power factor in the range of 85% to
23 95% would be expected to be both achievable and acceptable to YEC.

24
25 (b)

26
27 The meters used for large loads like Minto measure both kW and kVA.

28
29 (c)

30
31 The cost of the required metering for Minto is part of the "Mine Spur" pursuant to the
32 PPA, and is included in the estimated costs of \$3.830 million per section 5.1 of the PPA.
33 As part of the Mine Spur costs, Minto will pay 100% of the costs of the required meters.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 4.8**

2
3 "Minto may by providing written notice to YEC, require that the Diesel Units be used to
4 supply the Mine with Electricity with the sole cost to Minto being costs for fuel and
5 operator assistance."

6
7 **QUESTION:**

8
9 1. Please explain why other Yukon electricity ratepayers should pay the capital-
10 related costs of onsite diesel generators used solely to supply electricity to Minto.

11
12 **ANSWER:**

13
14 The PPA provides for two circumstances where Minto can require use of the Diesel
15 Units (see Sections 4.8 and 10.4(b)) and is required to pay the costs for fuel and
16 operator assistance.

17
18 In the above-circumstances referenced in section 4.8 of the PPA, where Minto is
19 required to pay the specified costs for use of the Diesel Units, these units would be used
20 to supply Minto in circumstances where Minto considers its equipment at the Mine to be
21 at risk of damage from the supply of Grid Electricity and YEC is also unable to use the
22 Diesel Units to supply Electricity to the WAF grid. Under Section 10.4(b), Minto can
23 request such use of the units when YEC is unable to supply Grid Electricity to the Mine
24 and is also otherwise unable to use the units to supply Electricity to the WAF grid. In
25 each of Sections 4.8 and 10.4(b), Minto in effect only has access to use of the Diesel
26 Units at times when YEC has no need or ability to use the units to supply electricity to its
27 customers. Accordingly, based on these use rights, it is appropriate that Minto not be
28 charged for capital-related costs of the units.

29
30 YEC anticipates that Minto use of the Diesel Units under Section 4.8 and 10.4(b) will be
31 very limited and brief when it occurs. In general, the Diesel Units will not be used solely
32 by the Mine and will provide system benefits to YEC ratepayers including the following:

33
34 • The diesel units will add 6.4 MW of reasonably low cost and low risk diesel
35 capacity to the WAF system and will benefit Yukon ratepayers generally through:

1 – The diesel units will provide a low cost addition to WAF peak winter capacity
2 at a time when YEC is actively examining options to enhance WAF firm
3 winter peak capacity.

4 – The diesel units will provide added security to YEC and Minto as regard
5 reliably supply at the mine and in the case of YEC, the purchase
6 arrangements for the asset enhance YEC's security with regard to the Minto
7 obligations to pay the Mine Spur Capital Cost Contributions.

8 – When WAF diesel generation is required, YEC operation of at least two of the
9 Diesel Units at the Mine Site is expected to be cost effective due to the
10 minimization of line losses and related additional diesel generation
11 requirements.

12 – The diesel units will, over the near term, provide cost effective contingency
13 protection until such time as other potential major mine loads as well as
14 capacity supply options are better clarified.

15

16 Please see response to YUB-YEC-1-8(1) and (2).

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 5.4**

2
3 "If the Capital Costs for the Mine Spur exceed \$4,800,000, the payments payable by
4 Minto to YEC under Section 5.2(b)(i) will be extended by two years."

5
6 **QUESTION:**

7
8 1. Please explain how the estimated capital costs of the Mine Spur could increase
9 by 25% to require this time extension.

10
11 **ANSWER:**

12
13 This provision is included in the PPA to provide for the contingency of an unexpected
14 increase in Capital Costs for the Mine Spur. YEC has no specific basis for expecting this
15 to occur – however, as in the Resource Plan hearing, cost escalation well above
16 engineering estimates has been known to occur recently for major projects in Western
17 Canada due to tight market conditions.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 5.6**

2
3 "...payment of any amounts under Sections 5.2(a)(i) and 5.2(b)(i) will be postponed by
4 30 days for each period of 30 consecutive days and any multiple thereof that such
5 condition continues."

6

7 **QUESTION:**

8

9 1. Please confirm that any carrying costs associated with this postponement of
10 payments will be recovered from Minto and not other Yukon electricity ratepayers
11 or taxpayers.

12

13 **ANSWER:**

14

15 Confirmed. Section 5.6 provides only for postponement of payments on the Capital Cost
16 Contribution for the Mine Spur portion of this contribution.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 6.1**

2

3 "Minto will pay YEC the amount set out in each Minto Power Bill within 15 Business
4 Days of the date of delivery of the Minto Power Bill to Minto."

5

6 **QUESTION:**

7

8 1. Please explain how this provision differs from the ESR provision for payment "by
9 the date indicated on the bill". Please indicate how much time other customers
10 are given to pay their bill.

11

12 **ANSWER:**

13

14 Retail customers have approximately 21 days from the billing date to pay their bills,
15 depending on statutory holidays.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Section 17.1**

2

3 "Neither Party may assign this Agreement without the prior written consent of the other
4 Party, such consent not to be unreasonably withheld."

5

6 **QUESTION:**

7

8 1. Please confirm that the YUB must approve of any assignment of this Agreement.

9

10 **ANSWER:**

11

12 The section cited relates to assignment of the PPA. The current review allows for full
13 YUB review of all terms of the PPA. No further YUB review or approvals are
14 contemplated by the PPA in the event of an assignment under section 17.1.

1 **REFERENCE: Appendix E - Power Purchase Agreement, Schedule C**

2

3 **QUESTION:**

4

5 1. Please identify the differences between the existing and proposed Rate Schedule
6 39 and provide the reasons for these changes.

7

8 **ANSWER:**

9

10 The demand charge per month is \$15.00/kV.A in the proposed Firm Mine Rate instead
11 of \$18.60/kV.A. as set out in the Primary Industrial Rate in Rate Schedule 39. The
12 current demand charge has remained unchanged for a period prior to the 1996/97 GRA.
13 The Firm Mine Rate charge is slightly higher than the demand costs of \$14.62 per kVA
14 indicted by the COS for the Industrial class (see Schedule A-1 to the Application).

15

16 The energy charge for the proposed Firm Mine Rate is 7.6 cents/kW.h for all energy
17 used instead of 5.301 cents/kW.h for all energy used for customers without a specific
18 Base Load Energy Amount and for all other customers 4.728 cents/kW.h for energy that
19 does not exceed the Base Load, plus 10.45 cents/kW.h for all energy consumed in
20 excess of the Base Load. The current energy charge was set in the 1996/97 GRA to
21 ensure that the rate equaled the Industrial COS at that time; Rider F is applied to
22 address fuel price changes since that time. The energy charge for the Firm Mine Rate is
23 slightly lower than the energy costs of 7.509 cents per kW.h indicted by the COS for the
24 Industrial class (see Schedule A-1 to the Application); these costs include expected fuel
25 prices based on the last Rider F forecasts for 2007. The Firm Mine Rate retains
26 provision for re-establishing a two part energy rate using a specific Base Load Energy
27 Amount for Minto when YEC expects (as was the case with the faro mien in the 1996/97
28 GRA) to require diesel fuel generation to service use in excess of such Base Load
29 Energy amount.

30

31 The proposed Firm Mine Rate includes a fixed charge which is to equal Capital Cost
32 Contribution payments required under the PPA. The current Industrial Rate in Schedule
33 39 sets out that the fixed monthly charge is "as determined for each customer, based on
34 fixed customer-specific costs of service." The earlier charge for the Faro mine related to
35 the assigned cost for the Whitehorse to Faro WAF transmission line. There is no basis
36 to consider any further Fixed Charge for Minto.

37

1 Section 4.1 of the PPA sets out the Electricity requirements that YEC is obligated to
2 deliver to Minto. The specific, new Industrial Primary Rate set out in Schedule C of the
3 PPA provides for projected 2008 annualized cost of service for the Major Industrial
4 Customer class based on the general and specific cost of service principles and
5 methods in Schedule E of the PPA, and yields an estimated average annual charge to
6 the Mine at the projected energy purchase requirement of 32.5 GW.h/year of
7 approximately 10.02 cents per kW.h. This average rate includes the demand Charge
8 and Energy Charge rates in the Schedule C Industrial Primary Rate, without
9 consideration of ongoing Fixed Charge provisions relating to ongoing monthly payments
10 by Minto for the Capital Contribution. In contrast, the existing Rate 39 if applied to the
11 Minto Mine load assumed in Schedule A-1 of the Application would result in an average
12 annual rate of 8.32 cents per kW.h plus a Rider F charge of approximately 0.87 cents
13 per kW.h¹ for a total average annual charge of approximately 9.19 cents per kW.h (see
14 response to UCG-YEC-2-6(f)).

15
16 The proposed Firm Mine Rate also includes a Peak Shaving Credit which was not
17 included in the current Rate 39. This option was included because it lowers the need to
18 plan for and run peaking diesels and providing benefits to Minto, YEC and all ratepayers.
19 The credit in each billing month equals 50% of the Demand Charge times the Peak
20 Shaved Load (which equals the amount by which then nominated Winter Contract
21 Demand is less than the Billing Demand for each month).

22
23 Reference to Rider F is not included in the proposed Firm Mine Rate in Schedule C of
24 the PPA. This reflects the fact that project fuel costs are included in the Firm Mine Rate,
25 diesel fuel generation is generally expected to be required for this load in 2008 (unlike
26 the 1996/97 GRA when material diesel generation was expected to be needed to supply
27 the Faro mine load), and the current Rider F as applied is still working off the 1996/97
28 GRA as the base which would not be appropriate for the Firm Mine Rate.

¹ An adjustment to the current Rider F is estimated to reflect that it would then be recovered over the extra load provided by the Minto Mine.

**YUKON ENERGY CORPORATION
MINTO MINE PPA APPLICATION**

**YUKON CONSERVATION SOCIETY
(YCS)**

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 5**

2

3 **3.2 Timing Requirements and Conditions**

4

5 **QUESTION:**

6

7 1. Can YEC provide clarification on “If any of the above conditions are not either
8 fulfilled or waived on or before the date specified the PPA will be terminated.”
9 a) Has the following timeline been met? February 28, 2007: YEC will have
10 completed its due diligence review of Minto and the Mine;
11 b) Has YEC received assurances, within reason, from YESAB, YUB, FN’s and
12 other regulatory bodies that the YEC/Minto PPA timelines will be met?
13 c) Is YEC prepared to adjust timelines, given that that approval dates are for the
14 regulatory bodies to determine?
15 d) Has YEC a backup plan if the timelines stated above are not met?

16

17 **ANSWER:**

18

19 (a)

20

21 Please see YUB-YEC-1-29 for an update on due diligence.

22

23 (b)

24

25 YEC is in communication with the relevant regulatory bodies and is committed to
26 working with them in order to facilitate meeting the timelines set out in the PPA; attention
27 at this time is focused on achieving the key targets set for the April 30, 2007 as regards
28 YUB approval of the PPA, preliminary engineering and related cost estimates and other
29 work, a draft YESAB Screening report and an Project Agreement with NTFN. See also
30 response to UCG-YEC-2-2 and 3.

31

32 (c)

33

34 For conditions under section 3.1 that are within YEC’s sole discretion, YEC will assess
35 whether to adjust timelines or waive or alter conditions prior to each deadline based on
36 the circumstances that exist at that time. Where conditions are to the benefit of both
37 YEC and Minto, the determination to extend a time line or waive or alter a condition must

1 be mutually agreeable to both parties. Ultimately, it is in the interest of YEC to extend
2 timelines if so required, subject to such extensions not seriously undermining the viability
3 of the project or exposing YEC to new and unacceptable risks.

4

5 See response to YUB-YEC-1-4 regarding benefits to ratepayers from completion in
6 2008, and response to UCG-YEC-2-1 as regards costs and other impacts under the PPA
7 from material delays in YEC in-service.

8

9 **(d)**

10

11 If conditions set out in section 3.1 are not met and have not been waived, altered or the
12 timeline extended, the PPA will terminate. The considerations relevant to YEC
13 extending any timeline are noted in response to (c) above. Receipt of YUB approval of
14 the PPA will confirm the basic parameters and allow YEC to focus on assessing any
15 added implementation scheduling options that may be available to achieve the project
16 objectives.

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 8**

2

3 **4.1.3 Low Grade Ore Processing Secondary Energy Rate**

4

5 **QUESTION:**

6

7 2. Can YEC provide clarification on the following aspects of the Low Grade Ore
8 Processing Secondary Energy Rate:
9 a) Why, or how, was the 1% figure arrived at?
10 b) Why “only at a mine site engaged primarily in copper production for
11 processing ore with less than 1% copper content”? Would other mine
12 operators interested in the Low Grade Ore Processing Secondary Energy
13 Rate be bound just by the ‘copper’ rule, or would it apply to zinc, lead etc.
14 c) What if the ore has 1% copper, but also has other percentages of metals
15 such as gold or zinc? Is the Secondary Energy Rate still applicable?
16 d) Will YEC be prepared to provide the Low Grade Ore Processing Secondary
17 Energy Rate for every mine with an ore body with less than 1% copper?

18

19 **ANSWER:**

20

21 For (a) through (d) please see answer to YUB-YEC-1-11 which sets out the following
22 rationale for the Low Grade Ore Secondary Processing Rate:

23

24 YEC has designed this rate in response to PPA negotiations with the Minto Mine
25 and in the absence of any other current potential mine customer discussions.
26 The intent is clearly set out that the rate is to be used only at a mine site engaged
27 primarily in copper production for processing ore with less than 1% copper
28 content (“Low Grade Ore”). The Low Grade Ore criteria would have no meaning
29 or relevance in the case of a mine site not engaged primarily in copper
30 production, and YEC intends to review this terminology in the event that any
31 other mine emerges that might potentially meet such a criteria in circumstances
32 where the rate might also be available due to surplus hydro still being available.

33

34 (a)

35

36 The 1% figure was determined by Minto’s mine plan, as described in public releases by
37 Sherwood Copper based on the Minto Feasibility Study (see response to UCG-YEC-2-

1 13), and represents the grade of ore that is planned to be stockpiled during the life of the
2 mine for planned or potential subsequent processing after high grade ore has been
3 processed.

4

5 **(b) (c) and (d)**

6

7 See above response to YUB-YEC-1-11.

8

9 While this rate may be applicable to other Industrial customers who meet the narrow
10 specifications of its applicability, this rate was specifically designed to serve Minto's
11 needs and is primarily applicable to the circumstances of that mining operation. As
12 devised, the rate is applicable to mine sites engaged primarily in copper production and
13 for processing Low Grade Ore at those sites. Low Grade Ore is defined as ore with less
14 than 1% copper content (or Low Grade Ore as defined by Minto with regard to its
15 operations at the Mine Site).

16

17 YEC intends to review this terminology in the event that any other mine emerges that
18 might potentially meet such a criteria in circumstances where the rate might also be
19 available due to surplus hydro still being available. YEC is not prepared to offer this rate
20 for every mine with an ore body with less than 1% copper, i.e., as stated the current rate
21 for starters is only applicable at a mine site engaged primarily in copper production (and
22 even for such eligible sites other than Minto YEC will review the applicability of this rate
23 as currently worded).

1 **REFERENCE: Application To Approve Minto Mine PPA; Page 10 and 11**
2

3 **4.2.2 Diesel Units at the Mine**
4

5 **QUESTION:**
6

7 3. Can YEC provide clarification on the four Diesel Units to be purchased from
8 Minto Mines:
9

10 a) Will the Mirrlees extension program be going ahead, in addition to the
11 purchase of these four diesel units?
12 b) Why purchase more diesel units, if the intent of the Carmacks/Stewart
13 extension was to provide greater hydro power to communities and mines
14 along the right-of-way?

15 **ANSWER:**
16

17 (a)
18

19 The Mirrlees units remain scheduled to be overhauled in an orderly progression over a
20 number of years beginning in 2007.
21

22 As with any capacity (load) related project, the ultimate timing will depend to some
23 extent on developments up to the date of initiating the work on each respective unit. To
24 the extent loads developed differently than forecast, the timing for the Mirrlees Life
25 Extension on each unit may be revised somewhat.
26

27 The availability of the Minto diesels will be factored into decisions regarding the timing of
28 the Mirrlees Life Extension. It is possible that the Minto diesels may allow for some
29 degree of deferral of the latter components of the Mirrlees Life Extension project.
30

31 (b)
32

33 The supply of hydro power (energy) to communities and mines in the vicinity of the
34 Carmacks-Stewart project is the intent. However, as discussed in detail at the Resource
35 Plan hearings, the WAF system is today already constrained with respect to the
36 availability of firm capacity supplies to meet YEC's capacity planning criteria. The Minto
37 diesels provide capacity towards this requirement, as well as efficiencies at such time as

Yukon Energy Corporation
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YCS-YEC-1-3

- 1 WAF diesel operation is required to serve system loads. See response to YUB-YEC-1-
- 2 8(1) and (2).

**YUKON ENERGY CORPORATION
MINTO MINE PPA APPLICATION**

**YUKON ELECTRICAL COMPANY LIMITED
(YECL)**

1 **REFERENCE: YUB Report to Executive Commissioner YEC 20-Year Resource**
2 **Plan**

3

4 **PREAMBLE:**

5

6 On January 15, 2007, the YUB presented its recommendations regarding the hearing
7 into YEC's 20-Year Resource Plan.

8

9 **QUESTION:**

10

- 11 a) Does YEC view these recommendations as an equivalent to a Board Order?
12 Please elaborate as to why or why not.
- 13 b) Does YEC agree that the fundamental premise of a Cost of Service Study is cost
14 causation? Please elaborate as to why or why not.
- 15 c) Does YEC agree that cost causation is predicated upon planning criteria?
16 Please elaborate as to why or why not.

17

18 **ANSWER:**

19

20 **(a)**

21

22 The YUB Recommendations arising from the review of YEC's 20-Year Resource Plan
23 are not a Board Order. YEC views the Recommendations as equivalent to those
24 provided in the 1992 Report to the Commissioner-in-Executive-Council regarding the
25 YEC and YECL Resource Plan reviewed at that time, i.e., these recommendations arise
26 from a specific direction under the Act for the Board to provide a report on a specific
27 matter, with recommendations, to the Commissioner in Executive Council. YEC
28 assumes that any Board Order under the Act, pursuant to the Board's mandate, will be
29 clearly set out as such by the Board.

30

31 **(b)**

32

33 The purpose of a Cost of Service (**COS**) study is to allocate costs fairly across the
34 various customer classes on a system. Cost causation is one factor underlying a COS
35 study. However note that cost causation can have a number of different meanings, so
36 other aspects of professional practice must inform the exercise.

37

1 **(c)**

2

3 To the extent system loads are driving investment pursuant to an established planning
4 criteria, this would be an example of one of many potential cost causation links that
5 would merit attention in a cost of service classification and allocation process. This type
6 of cost causation arrangement is typical of demand-related generation costs, which are
7 typically allocated to customers based on their share of the system that is driving the
8 investment.

1 **REFERENCE: YUB Report to Executive Commissioner YEC 20-Year Resource**
2 **Plan – page 10 of 55**

3
4 **PREAMBLE:**

5
6 “The Board recommends that, in order to ensure that no new generating capacity is
7 added for the purposes of ensuring reliable supply to major industrial customers and to
8 ensure consistency with the N-1 criterion, major industrial loads should not be included
9 in the LOLE calculation.”

10

11 **QUESTION:**

12

13 a) Does YEC agree with the Board’s above noted recommendation? More
14 specifically, does YEC agree that no new generating capacity be planned or
15 added to the system for the purpose of ensuring reliable supply to major
16 industrial customers served under Rate Schedule 39?
17 b) In light of the Board’s recommendation, please explain why you have allocated
18 any generation or transmission costs classified as demand related to Rate
19 Schedule 39.
20 c) In light of the Board’s recommendation, please explain how YEC can propose a
21 firm mine rate when you have not planned for a reliable supply to customers
22 served under Rate Schedule 39?
23 d) If no new generation or transmission is planned for major industrial customers,
24 does YEC agree that this could likely change Minto Explorations’ position on the
25 PPA? If yes, please explain YEC’s understanding of this change? If not, please
26 explain why not?
27 e) Please explain how the Board’s recommendation impacts the planning and
28 timing of construction of the Aishihik #3 hydro unit.

29

30 **ANSWER:**

31

32 **(a) and (b)**

33

34 The Board’s report in this regard appears to reflect a misunderstanding of the capacity
35 planning criteria adopted by YEC as it impacts industrial customers¹.

¹ At page 11 of the Board’s Report, the Board stated that it was “YEC’s testimony that new generating capacity will not be planned, or added to the system, for the purpose of ensuring reliable supply to industrial loads” [a similar statement also

1 YEC's criteria as adopted reflect the need to plan the generating and transmission
2 system to reflect reliable supply to industrial customer loads (based on including such
3 loads in the LOLE calculations) to the extent these loads are firm power (i.e., would
4 include "Rate Schedule 39 Firm Mine Rate" industrial loads, but not "Rate Schedule 35
5 Low Grade Ore Processing Secondary Energy", for example).

6

7 However, the Board's report states at page 10 that "YEC indicated that new generating
8 capacity will not be planned or added to the system for the purpose of ensuring reliable
9 supply to major industrial customers," and then goes on to note that the definition of the
10 LOLE criterion "does not mention exclusion of major industrial loads explicitly..." and that
11 if such loads were included in the LOLE calculations "the Board considers it to be an
12 inconsistent approach, as inclusion of major industrial loads in the LOLE calculation will
13 produce higher LOLE values....that would signal a need for new capacity." The quote in
14 the YECL question then follows directly after these statements.

15

16 The confusion appears to arise due to the difference between the LOLE and N-1 criteria
17 as adopted by YEC, which YEC described as follows in Attachment A of the Reply
18 Argument:

19

20 "The largest practical difference between the LOLE criteria and the N-1 criteria is the
21 calculation, or base of loads, to which the criteria will apply. The LOLE criteria is
22 designed to ensure all firm loads (including industrial customers being served at firm

was made at page 10] and a footnote then cites a reference from Mr. Morrison which suggests he indicated industrial customers would be treated, for capacity planning purposes, as if they were secondary sales customers. This interpretation of the reference is not correct. The quote by Mr. Morrison indicated that in an emergency situation (such as an Aishihik line outage at the coldest time of winter) any mines would likely be dropped from the WAF system as an emergency response measure as they would likely have their own emergency backup generation, where other types of customers (such as residential) would not. This is an emergency measure to mitigate the impact of severe outages. The quote however is not intended to indicate that YEC would not plan the system for industrial loads. This was clarified by Mr. Morrison at page 282 of the transcript as follows:

MR. MORRISON: I would just like to clarify, I may have left a wrong impression yesterday when answering a question from Mr. Pinard. It is page 87, and in the first few lines of that page, I had indicated that secondary sales customers and industrial customers are the same. And I just want to be clear that industrial customers are firm customers, they are not secondary sales customers. I was trying to use as an example in terms of backup, but I think I may have kind of lumped them together where I should not have. So in the secondary sales situation, when we reach the capacity in terms of the grid and we have to look at the peak, our practice has been that we have disconnected secondary sales customers if, in fact, to keep them on the system would require us to generate some diesel. So we do not provide any secondary sales if, in fact, we have to go a diesel mode to provide them.

In the case of industrial customers, they are firm customers. Now, in terms of an emergency, we have made it clear to the industrial customer, and we have made it clear, I think, yesterday as well, that the industrial customer would have to have its own backup supply on site. But I just wanted to make sure that we were not considering both industrials and secondaries as the same kind of customer.

THE CHAIR: Thank you, Mr. Morrison

1 rates) receive reasonable utility-grade supply from the system as follows at transcript
2 page 446 line 7 - page 448 line 9:

4 "Q: Mr. Bowman, yesterday when we were talking, I was left with the
5 impression that you have factored in the mine loads in your
6 calculation of the LOLE. Is that correct?

8 A: Yes, when you are looking at the LOLE calculation, and the analysis
9 of the entire system, you would look at all loads on the system,
10 which includes the mine loads, and that is consistent with the way
11 Dr. Billinton dealt with the system in his second report filed in
12 response to YUB Question 1, the first round interrogatories, where
13 Yukon Energy asked him to take what had he done in his first report,
14 looking to the system today, and apply it to the system as it existed
15 when the Faro mine was on, and he showed the impacts with the
16 Faro mine associated with the LOLE calculation. And, as a result of
17 that, and further discussion, what has been adopted by Yukon
18 Energy is a criteria that says the LOLE will apply to all loads on the
19 system, whereas the N-1 would apply to all those loads who do not
20 have their own back-up, their own ability to supply their own power
21 in emergency situation, which, for the purposes of calculation,
22 means all loads, less the mines.

24 Q: You know, I thought the same would have applied to the LOLE, that,
25 since the mine loads are interruptible, that you would not factor that
26 in to the LOLE either.

28 A: Well, let me be really clear. The mines are not contemplated to be
29 provided with interruptible power, in the sense that we talk about
30 interruptible rates in other jurisdictions, or secondary power here, or
31 something of that nature.

33 Q: Fair enough.

35 A: The service to the mines is intended to be a firm service that Yukon
36 Energy would provide. It would provide in all hours of the year, as
37 able to provide it, whether from hydro or from diesel, to a utility
38 standard, including to a standard that would mean a LOLE of two
39 hours per year. The comment about interrupting the mines goes
40 more to when you have turned your mind over from design of the
41 system, to what does one have to do when we hit those emergency
42 situations. And when we hit the emergency situations, and you know
43 the mines have their back-up, and they can keep themselves from
44 freezing, Yukon Energy would turn its attention to keeping other
45 people from freezing in the dark, as opposed to the mines, who can
46 do that for themselves. But it doesn't go into the criteria type of
47 analysis which says, in providing service to the mines, the system
48 will be able to provide them with utility grade firm service meeting
49 an LOLE of two hours per year, or better."

1 Nonetheless, despite the presence of the LOLE criteria there is a significant additional
2 protection required, given the topology of the Yukon System, to reflect the exposure
3 to the non-industrial customers to the Aishihik transmission line. This is an added
4 measure to reflect that, unlike typical mines, most customers do not maintain their
5 own backup to supply their necessary loads in these situations, as discussed at page
6 448 line 10 to page 450 line 24:

7

8 "Q: Aren't you designing the system to meet the requirements, not
9 specifically to the mines? Like, you are not designing the system to
10 meet the load requirement of the mines because, as you say, you
11 know, in an emergency situation, you can curtail the power to the
12 mines to try to serve other customers.

13

14 A: No, that is not quite correct. The system would be designed -- let
15 me go back a step. The system has always been designed, under
16 the previous criteria, to incorporate the mine loads. The calculation
17 that was done in the past, on the deterministic criteria, always
18 looked at all loads, including the mines. The '96 GRA, for example, if
19 you looked at the peaks and measurement of the criteria, always
20 had the Faro mine in at about 25 megawatts, at that time, in terms
21 of determining the adequacy of the system. So it has always been a
22 component of planning the system. The LOLE criteria continues that
23 approach, that the system will be planned to ensure reliable service
24 to all customers, including the mines.

25

26 The only variation today is that Yukon Energy is proposing to add
27 this additional, more stringent at the present time, particularly more
28 stringent with regard to Whitehorse or retail loads, N-1 criteria, that
29 says, even if I have designed my system to provide utility grade
30 power at a long-term average of two hours per year, I want to also
31 be attentive to the impact that can arise from a lengthy outage of
32 the Aishihik line, which is what the N-1 criteria is meant to address.
33 And it goes to ensuring that the -- that, in looking at the LOLE
34 criteria, and the long-run averages, coming up with two hours per
35 year, one has not ignored that there is a situation where you would
36 want to be better protected than that, relating to long outages that
37 can arise with the Aishihik line."

38

39 In summary, YEC does not agree that its newly adopted capacity planning criteria (or the
40 previous criteria used for planning the WAF system) would result in no new generating
41 capacity being planned or added to the system for the purpose of ensuring reliable
42 supply to major industrial customers served under Rate Schedule 39. YEC also does
43 not agree with recommendations that its capacity planning criteria should be changed in
44 this regard, and the PPA was negotiated (and the Application prepared) based on YEC's
45 currently adopted capacity planning criteria.

46

1 Yukon Energy looks forward to the next available opportunity to clarify this issue with the
2 Board.

3

4 **(b), (c) and (d)**

5

6 As noted in part (a), Yukon Energy has used the Rate Schedule 39 Firm Mine Rate
7 structure, and allocated generation and transmission related demand costs to Minto,
8 because under the PPA Minto is to receive reliable firm power. This includes the
9 potential requirement at some point to have to add capacity resources to WAF as
10 needed to ensure an LOLE of no more than 2 hours/year, to ensure reliable firm power
11 is made available to all retail, wholesale and industrial customers.

12

13 If new generating capacity was now not to be planned or added to the system for the
14 purpose of ensuring reliable supply to major industrial loads, the framework for COS
15 assessment and rate design for the major industrial customer class would likely need to
16 be radically changed from past YUB and YEC/YECL practice and the provisions of OIC
17 1995/90. Among other considerations, classification of generation or transmission costs
18 to this customer class would need to be reviewed.

19

20 In the event a firm mine rate structure is not approved for service to Minto, and only
21 some form of interruptible power is to be provided, that would violate the basic premise
22 of the PPA. Such an approach would also violate the basic premise for providing
23 primary service to industrial customers in Yukon as it has been in place since Yukon
24 Energy was established. In addition, to the extent only interruptible power was available
25 for supply to Minto, there would be little basis for a rate at the approximately 10
26 cents/kW.h average level negotiated, as opposed to something more in the range of
27 secondary sales which today approximates 6 cents/kW.h. At that rate, it would not be
28 economically viable to interconnect the mine, and both parties (Minto and YEC) would
29 be forced to forego the benefits that will arise under the PPA as negotiated.

30

31 **(e)**

32

33 The Board's recommendation in respect of capacity criteria does not affect the planning
34 or timing of Aishihik 3rd turbine, as the 3rd turbine project as currently planned is not
35 related to meeting in any material way YEC's planning capacity (with or without
36 consideration of Industrial load). It is solely being pursued as a project to help displace
37 diesel fuel.

1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2 **PREAMBLE:**

3 YEC has agreed to finance the Mine Spur Capital Cost Contribution plus the Carmacks-
4 Minto Landing Capital Cost Contribution (Collectively known as the "Capital Cost
5 Contribution") for varying periods of time.

6 **QUESTION:**

7

8

9

10

11 a) In YEC's opinion, does this decision to finance Minto Explorations expose YEC
12 or Yukon ratepayers to additional financial risk?

13 b) Does YEC's proposed subordinated security arrangement bring YEC and
14 electrical customers back to a neutral position similar to what would be the case
15 if Minto Explorations paid the contribution up front?

16 c) Does YEC believe this decision to finance Minto Explorations will have any
17 impact on the YEC risk profile and allowed rate return? Please elaborate as to
18 why or why not.

19 d) Please quantify the impact this decision to finance Minto Explorations will have
20 on YEC's capital structure.

21 e) Please quantify the impact this decision to finance Minto Explorations will have
22 on YEC's debt coverage ratios, bond ratings and the associated impact on YEC's
23 cost of borrowing.

24 f) In the past, has YEC financed other customers in a similar manner? If so, please
25 provide the details of such arrangements.

26 g) Given this proposed arrangement, does YEC anticipate financing other industrial
27 customers such as Carmacks Copper? Please elaborate as to why or why not.
28 Does YEC consider that it must treat other industrial customers interconnecting
29 to other locations (i.e. Not the Carmacks-Stewart Crossing line) on the system in
30 a consistent manner? If not, why not?

31 h) Given this proposed arrangement, does YEC anticipate financing residential and
32 commercial customers in the future? Please elaborate as to why or why not.

1 **ANSWER:**

2 **(a)**

3 Please see YUB-YEC-1-32 and YUB-YEC-1-34. There is risk, even with the YEC
4 Security arrangements. However, as outlined in YUB-YEC-1-32 and YUB-YEC-1-34,
5 subject to completion of its due diligence and contingent on YUB approval of the other
6 conditions in the PPA, YEC is satisfied that the risk is manageable and worth taking with
7 the various terms and conditions under the PPA, including the Mine Net Revenue
8 Account in place to manage that risk and ensure ratepayers are not likely to be
9 adversely impacted.

10 **(b)**

11 Please see the answer to YECL-YEC-1-3(a).

12 **(c), (d) and (e)**

13 Although serving industrial customers and developing major new projects has in the past
14 typically increased YEC's risk profile, serving those customers or those projects has not
15 led to the YUB changing YEC's allowed rate of return. YEC's debt is guaranteed by the
16 Yukon Government and this guarantee is the key factor affecting YEC's borrowing costs
17 and overall risk profile. YEC's capital structure is not expected to be materially changed
18 (although the Mine Net Revenue Account will in effect constitute a separate source of
19 financing, the treatment of which has yet to be determined). The operation of the Mine
20 Net Revenue Account also will mitigate any near term adverse impact on ratepayers.
21 YEC has not undertaken an assessment of the impacts on YEC's debt coverage ratios,
22 bond ratings or cost of borrowing.

23 **(f)**

24 Please see answer to YUB-YEC-1-34.

25 **(g)**

26 As set out in YUB-YEC-1-34, this current financing represented a special circumstance
27 predicated upon Minto's inability to obtain conventional debt financing to pay YEC at the

1 outset or to provide a letter of credit, plus other factors as noted (including ability to sell
2 surplus hydro power at firm rates), and YEC does not at this time anticipate such an
3 arrangement being automatically agreed to or appropriate with other possible industrial
4 customers. Because each possible industrial customer will have different needs, and it
5 is unlikely that YEC will have surplus power in the foreseeable future, YEC does not
6 believe the issue of consistency identified in the question is relevant.

7

8 **(h)**

9

10 No. Please see the answer to YECL-YEC-1-3(g) as well as YUB-YEC-1-34.

1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2
3 **PREAMBLE:**

4
5 YEC has agreed to finance the Mine Spur Capital Cost Contribution plus the Carmacks-
6 Minto Landing Capital Cost Contribution (Collectively known as the "Capital Cost
7 Contribution") for varying periods of time. The Economic Development Act and
8 associated regulation OIC 1993/099 contain provisions to establish Energy Infrastructure
9 Loans for Resource Development Regulation ("Energy Infrastructure Loan Program").

10
11 **QUESTION:**

12
13 a) Please provide YEC's understanding of why Minto Explorations was unable or
14 unwilling to go to the markets to obtain financing for their Capital Cost
15 Contribution?
16 b) Please provide YEC's understanding of why Minto Explorations has not paid up
17 front even a small percentage of the Capital Cost Contribution?
18 c) Why did YEC not access or attempt to access this existing program for at least a
19 portion of the proposed financing of Minto Explorations' Capital Cost
20 Contribution?
21 d) Does YEC agree that the use of the Energy Infrastructure Loan Program would
22 put the financial risk of financing of Minto Explorations on taxpayers as opposed
23 to rate payers?
24 e) Please explain YEC's views on why YTG created this program if YEC was willing
25 to finance contributions?
26 f) Under what circumstances does YEC see the Energy Infrastructure Loan
27 Program being used?
28 g) Why did YEC not access or attempt its parent, the Yukon Development
29 Corporation, to finance Minto Explorations' Capital Cost Contribution?
30 h) Does YEC agree that the use of the Yukon Development Corporation would put
31 the financial risk of financing Minto Explorations on taxpayers as opposed to rate
32 payers?
33 i) Please describe why YEC did not use Part III of Schedule B of the Electrical
34 Service Regulations to determine an appropriate utility investment for the
35 extension of service required for Minto Explorations?

1 j) Is YEC aware of any other utility investment levels that have been approved in
2 other jurisdictions for investment in service to industrial customers with a non
3 standard service life? If so, please elaborate.

4

5 **ANSWER:**

6

7 **(a) and (b)**

8

9 Please see response to YUB-YEC-1-34.

10

11 Minto indicated to YEC that it was not able to provide one-time upfront capital through
12 conventional debt markets in order to access ongoing power cost savings compared to
13 running its own diesels as, similar to other mining outfits, upfront capital is a scarce
14 resource to the company.

15

16 Instead, YEC and Minto developed an approach to the PPA that reflected Minto's
17 situation and focused on securing long-term infrastructure benefits for Yukon ratepayers
18 reflecting Minto's investment in the assets (through repayment of the amounts YEC is
19 financing) based on the ongoing savings Minto will achieve. As set out in the PPA
20 Application, various specific measures were included to manage and mitigate YEC and
21 ratepayer risks, including the YEC Security and the Mine Net Revenue Account.

22

23 **(c)**

24

25 YEC has no access to the program referenced. It is a program administered by
26 Government of Yukon, and is specifically not available to a public utility.

27

28 **(d), (e) and (f)**

29

30 Yukon Energy cannot comment on Yukon Government programs. Any potential use of
31 the cited program is a matter between Minto and the Government of Yukon. To YEC's
32 knowledge, the program is not relevant to Minto with respect to the PPA as: 1) the
33 maximum value of the loans under the program is \$3 million; and, 2) Minto would not
34 qualify for a loan under this program due to the security and encumbered assets
35 provisions.

1 **(g) and (h)**

2

3 Yukon Development financing for this project relates to no-cost capital towards the
4 Carmacks-Stewart line. YDC financing was not available to Minto for their capital
5 contribution.

6

7 **(i)**

8

9 Please see YUB-YEC-1-7.

10

11 **(j)**

12

13 YEC is aware of the Duck Pond mine in Newfoundland, which recently was connected to
14 the Island Interconnected System. In that case the estimated economic life of the mine
15 was expected to be between six and seven years, and the costs of the extension to
16 serve the mine was financed by the utility (Newfoundland Hydro) over a five-year period
17 which would be one to two years less than the expected life of the mine. The
18 contribution agreement between the utility and the Duck Pond Mine did not include any
19 take-or-pay provisions, special security or other special provisions to support such
20 financing commitments. The Duck Pond mine case is further discussed in YUB-YEC-1-
21 34.

1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2

3 **PREAMBLE:**

4

5 YEC has agreed to finance Minto Explorations for the Mine Spur Capital Cost
6 Contribution plus the Carmacks-Minto Landing Capital Cost Contribution (Collectively
7 known as the "Capital Cost Contribution") for varying periods of time. Under the Rural
8 Electrification Program, the Government of the Yukon provides loans to rural residential,
9 small load commercial and other non-industrial property outside incorporated
10 communities where the Yukon Government is the property taxation authority to help
11 cover the customer contribution required to connect to electrical utility service. Funding
12 to any project, excluding any contribution by the utility, is limited to a loan maximum of
13 25% of the total assessed value of land and improvements within the project area.

14

15 **QUESTION:**

16

- 17 a) Please explain YEC's view on why the government started this program that
18 keeps the financing of rate payers separate and distinct from the two regulated
19 electrical utilities?
- 20 b) Please explain YEC's view on why the Yukon electrical utilities have not provided
21 additional loans to residential customers to fund customer contributions?
- 22 c) Please explain YEC's view on why the government has limited the loan to a
23 maximum of 25% of the total assessed value of land and improvements within
24 the project area?
- 25 d) Once it becomes more widely known that YEC has financed 100% of Minto
26 Explorations' customer contribution, does YEC anticipate pressure will be
27 brought to bear on the utilities as well as the Yukon Utilities Board to allow utility
28 financing of residential and commercial customer contributions? If yes, what is
29 YEC's position on this possibility? If not, please explain why this would not be
30 the case.

31

32 **ANSWER:**

33

34 (a)

35

36 YEC cannot comment on why the Yukon Government created the referenced program.

37

1 **(b)**

2

3 Yukon Energy has not provided loans to residential customers as it is not normal utility
4 practice, and because there are alternative means for residential customers to access
5 funding for their interconnections where required, including the referenced YTG
6 program.

7

8 **(c)**

9

10 YEC cannot comment on Yukon Government programs. It is presumed that the limit
11 reflects the lender's assessment as to the likelihood of recovering on their loan – one of
12 the principles used by YEC in assessing the financing of Minto's interconnection.

13

14 **(d)**

15

16 No. YEC does not expect there to be pressure nor justification for such financing as 1)
17 there are other mechanisms available to these customers such as the above referenced
18 program, and 2) there is no ready precedent YEC is aware of for a utility to fund
19 interconnections of residential or commercial customers. There is precedent for a utility
20 to finance the costs to interconnect industrial customers (the Duck Pond mine in
21 Newfoundland) and since that financing was put in place, YEC is not aware of any new
22 pressures being put on Newfoundland Hydro to provide financing to new residential
23 customers.

1 REFERENCE: Mine Net Revenue Account approval – page 3 of Application;
2 Page 11 – 12 of the Application; Attachment C of Application;
3 Page 17 of the PPA

5 PREAMBLE:

7 YEC seeks approval of provisions respecting the Mine Net Revenue Account as set out
8 in Section 3.6 of the PPA.

10 **QUESTION:**

12 a) In YEC's opinion, please elaborate on any and all circumstances that would
13 result in the Mine "Net Revenue" Deferral Account being a Mine "Net Expense"
14 Deferral Account.

15 b) Besides YEC's commitment with the Mayo/Dawson transmission line that
16 committed that rate payers would be no worse off with the construction of the
17 Mayo/Dawson transmission line vs. continuing to run the diesel plant in Dawson
18 City, is YEC able to provide any other existing example(s) where there is a "no
19 net cost to ratepayers" statement or policy or commitment that has been
20 approved by a Public Utilities Board?

21 c) Given that YEC has made statements that represent at least three separate
22 projects will have "no adverse impact to ratepayers" (e.g. (1) Mayo to Dawson
23 Transmission Line (2) Stage One of the Carmacks to Stewart Transmission Line
24 (Carmacks to Pelly Crossing) / Minto Spur Line and (3) Stage Two of the
25 Carmacks to Stewart Transmission Line (Pelly Crossing to Stewart Crossing),
26 how is YEC proposing to track and regularly report to the Yukon Utilities Board
27 on these statements to ensure the commitments are met and incremental
28 revenues and incremental costs are allocated to the proper project?

29 d) Please confirm that as part of the next GRA filing, two separate cost of service
30 studies will be required? (E.g. A first cost of service study that will include the
31 load of Minto Explorations and be used to determine the costs allocated to Minto
32 Explorations. A second cost of service study that will exclude the load of Minto
33 Explorations and will be used to determine the costs allocated to all other classes
34 of customers. That is, on Schedule A-17, YEC forecasts a 2008 Total Yukon
35 Cost of Service of \$48,966,200 of which \$3,250,000 is allocated to the Industrial
36 Class. On the same page, YEC forecasts a Total Yukon Cost of Service of
37 \$46,693,000 without the Minto mine on the system which would then be

1 recovered from all other non-industrial rate classes.)

2 e) Given that current customers are paying for the infrastructure that is being used
3 to generate and transmit the surplus energy used to serve the mine, does YEC
4 agree that its proposal creates intergenerational inequities between the
5 customers who are paying for the system today and those who may benefit in the
6 future?

7

8 ANSWER:

9

10 (a)

12 Attachment C to the Application indicates specific annual examples (in the final year of
13 assumed mine operation) of net expense entries to this account. In general, YEC
14 cannot elaborate on "any and all" such circumstances. So long as the Mine operates as
15 planned through most of the life expected in the Attachment C analysis, and surplus
16 hydro conditions approximate what is assumed in this analysis, the overall account is
17 expected to remain positive.

18

19 Please see YUB-YEC-1-6 and YUB-YEC-1-15 for further detail on how this deferral
20 account will operate to ensure that incremental annual Mine Net Revenue or net costs
21 do not affect YEC earnings or the determination of the revenue requirements affecting
22 other ratepayers in the Yukon. Expenses charged to the deferral account would include
23 all ongoing annual costs still remaining for the CS Project facilities as well as any
24 realized risks related to temporary or premature Mine shutdowns or closures, CS capital
25 cost escalations beyond those already assumed, or the impact (in terms of increased
26 reliance on incremental diesel generation to serve Minto loads) of premature reductions
27 in surplus hydro generation due to other new mine loads or other higher-than-expected
28 WAF load increases.

29

30 (b)

31

32 Yes. This is the same basic principle that applies in the case of many utility rate
33 offerings approved by various utility regulators including, for example, the YUB in
34 respect of the Secondary Energy offering, which is only to be made available to the
35 extent there is “no net cost” to other ratepayers (and in fact there is net benefits to other
36 ratepayers).

37

1 **(c)**

2

3 YEC is proposing that the commitments be tracked by way of established mechanisms,
4 for example the annual calculation of the YDC Flexible Debt financing in respect of
5 Mayo-Dawson (which ensures that in each year if the system would otherwise have
6 higher costs with the Mayo-Dawson line that it would have had if it had stayed on diesel,
7 YDC will receive a lower interest rate to ensure ratepayers are “kept whole”) and the
8 Mine Net Revenue Account (which similarly ensures the incremental costs and revenues
9 of the PPA and related Stage One of the Carmacks-Stewart project are routinely
10 tracked). When and if YEC develops a specific plan to proceed with Stage Two of the
11 CS Project, the matter of ratepayer impacts and risks will be revisited in the context of
12 the then forecast diesel generation costs without this development.

13

14 **(d)**

15

16 It is likely that as part of the next GRA a cost of service study reflecting the entire costs
17 of the system as it exists (without modifications reflecting the impact of the Mine Net
18 Revenue Account) will determine the suitability of the Rate Schedule 39 (i.e., Minto) rate,
19 including application of OIC 1995/90. Rates for other classes will be set pursuant to
20 other requirements (including for example OIC 1995/90 directives on equalized rates,
21 run-our rates and the YEC wholesale rate), which will be assessed net of all transfers to
22 the Mine Net Revenue Account as part of the consolidated revenue requirement. These
23 transfers will ensure that ratepayers essentially face rates that are not materially different
24 than they would have experienced had the Carmacks-Stewart project not been built and
25 Minto not connected to the system (i.e., ratepayers will be held whole). It is not clear
26 that this will necessarily require a separate cost of service study. That is a matter for
27 review at a future GRA. See also response to YUB-YEC-1-10(4).

28

29 **(e)**

30

31 No. In all utility rate setting, costs related to assets that will provide long-term value are
32 assigned to the ratepayers of the day, even though in many cases future generations will
33 also benefit. For example, today's ratepayers in Yukon, BC, Manitoba, etc., are
34 benefiting materially from rates that reflect the investment of past generations in lower
35 cost hydraulic generation assets rather than just diesel or other thermal generation.

36

1 **REFERENCE:** **Attachment C of the Application (Table C-1 – Page C-4)**

2

3 **PREAMBLE:**

4

5 As proposed by YEC, the Mine Net Revenue Account will be applied against the
6 undepreciated balance of the CS transmission project or for any new generation
7 infrastructure developed by YEC on an accelerated basis due to the Minto mine or the
8 CS project.

9

10 **QUESTION:**

11

12 a) As current customers are paying the carrying costs of the generation that is
13 providing the surplus energy, please explain how these customers will benefit
14 from YEC's termination proposal?

15

16 **ANSWER:**

17

18 Please see YECL-YEC-1-6(e). In all utility rate setting, costs related to assets that will
19 provide long-term value are assigned to the ratepayers of the day, even though in many
20 cases future generations will also benefit.

21

22 Section 3.6 is expected to provide, prior to termination of Minto Mine operations, for the
23 deferral account to offset rate base or be otherwise used as a contribution towards
24 certain capital costs (e.g., CS Project costs).

1 **REFERENCE:** Attachment C of the Application (Table C-1 – Page C-4)

2 **PREAMBLE:**

3 YECL wishes to better understand how the YEC/Minto Agreement will operate.
4 Assuming there was a significant decrease in the price of copper such that the off-take
5 agreements Minto Explorations has secured go unrealized and, as a result, Minto
6 Explorations is forced to declare bankruptcy with YEC having not realized any of its
7 security due to its subordinated position and electrical service is discontinued on
8 December 31, 2010.

9 **QUESTION:**

10

11 a) Please calculate the cost impact as of December 31, 2010.
12 b) Please describe who would be responsible for this cost impact.
13 c) Assuming that it is YEC's shareholder that is responsible for this cost impact as
14 there are to be no adverse impacts to rate payers, please indicate whether it
15 would be treated as "disallowed assets" or whether YDC, YEC's shareholder,
16 would make a cash payment to YEC?
17 d) If there is to be a cash payment to YEC, can YEC please provide a copy of the
18 agreement with the supplier of the funds?
19 e) If the treatment is one of "disallowed assets", please indicate how rate payers will
20 be protected from the impacts on capital structure, debt coverage ratios, possible
21 lower bond ratings and the associated higher cost of borrowing money.

22 **ANSWER:**

23 **(a) to (e)**

24 The assumptions stipulated are sensational and ignore the facts in this case. The
25 purchaser of the copper concentrates from Minto is MRI, a multi-bullion dollar
26 conglomerate. There is no reasonable basis at this time to suspect that MRI will not
27 honour its contractual commitments.

28 The consequences of Minto defaulting on its financial obligations to YEC Minto are
29 further discussed in YUB-YEC-1-32 (also see YUB-YEC-1-14), including situations
30 where YEC's interests are still subordinate to the Macquarie Bank Limited.

1 It is anticipated that prior to March 31, 2007, the MRI Agreement will be amended such
2 that MRI no longer has security over the Copper Concentrate and instead will purchase
3 and pay for the Copper Concentrate on the Mine Site.¹ In these circumstances MRI
4 would not have security in front of YEC or Macquarie Bank. Since it is anticipated that
5 the PLF financing will be entirely paid off by November 30, 2009 and that the SLF
6 financing will not proceed (given the new BMO debenture financing), it can be expected
7 that YEC will have a first in line security interest over the Mine's assets by December 30,
8 2010.

9

10 While ensuring no adverse rate impacts on consumers is one of the key premises
11 underlying the PPA, YUB-YEC-1-14 provides for the case of an extreme scenario where
12 there is a risk that adverse rate impacts could occur if there is a default relatively early
13 in the expected Mine life associated with a permanent closure of the Mine. Based on the
14 investments arranged by Macquarie and BMO after extensive separate due diligence
15 reviews, YEC does not see a near term permanent closure as a likely risk once the Mine
16 is in commercial operation (which is a condition that must occur before YEC proceeds to
17 start to construct the Transmission Project). Nevertheless, YEC is also completing its
18 own extensive due diligence review (see YUB-YEC-1-29).

19

20 In the event of default by Minto, YUB-YEC-1-32 sets out that the PPA includes many
21 provisions designed to prevent any net cost to Yukon ratepayers including the Capital
22 Cost Contribution, the take-or-pay provisions, the YEC Security, and the Mine Net
23 Revenue Account. A default does not automatically mean that there will be a net cost to
24 YEC or other Yukon ratepayers.

¹ Section 3.1(d) of the PPA sets out that if the MRI Agreement is not amended, prior to March 31, 2007, YEC and MRI will enter into an agreement with MRI and Minto governing the respective obligations of each of MRI and YEC under the MRI Agreement and the YEC Security on terms and conditions satisfactory to YEC, acting reasonably. Under section 6.6, Minto has covenanted with YEC not to permit the amount of principal outstanding for the MRI Agreement to exceed \$20 million (USD).

1 **REFERENCE:** **Section 10 of the PPA (Pages 29 – 34) and Section 4.2.2 of the**
2 **Application**

3

4 **PREAMBLE:**

5

6 Upon the start of YEC's delivery of Grid Electricity to the Mine, YEC will assume from
7 Minto the Cat Leases for the four 1.6 MW trailer mounted diesel units at the Mine.
8 Under the PPA, Minto will be allowed to require YEC run the Diesel Units to supply the
9 Mine with electricity at Minto's sole cost for fuel and operator assistance when YEC is
10 unable to supply Grid Electricity and for so long as the units are not required by YEC to
11 supply electricity to the WAF grid.

12

13 **QUESTION:**

14

15 a) Please explain why this proposed source of capacity and energy was not
16 proposed or discussed as part of YEC's 20 Year Resource Plan?

17 b) Will YEC ever allow Minto to exceed their contract demand by running the on-site
18 diesel simultaneous to providing grid energy? Please elaborate as to why or why
19 not.

20 c) The unplanned outage of the Aishihik transmission line may prevent YEC from
21 supplying Grid Electricity to the Mine and thus Minto may elect to have the Mine-
22 site Diesel Units run to supply Minto. In YEC's opinion, does this negate the
23 intent of the exclusion of industrial load in the N-1 portion of the New Planning
24 Criteria? Please elaborate as to why or why not.

25 d) For each of the 1.6 MW diesel units to be leased and or purchased by YEC,
26 please provide the estimated total amount of hours on each of the major
27 components at the Commencement of Delivery. For greater clarity, please
28 confirm the percentage of each asset's remaining life at the time of
29 Commencement of Delivery.

30 e) Please provide a copy of the business case completed by YEC to support the
31 inclusion of the mine site diesel units within the PPA. This analysis should
32 include the impact of purchasing used vs. new diesel generation equipment.

33 f) As the Mine-site Diesel Units are not "needed" at the currently envisaged
34 Commencement of Delivery date, why should customers effectively commence
35 paying for them at that time in the Mine Revenue Deferral Account?

36 g) Under what circumstances would YEC not purchase the diesels from CAT?

1 **ANSWER:**

2 **(a)**

3 At the time the initial 20-Year Resource Plan was prepared the potential acquisition of
4 the Diesel Units was not considered; however, prior to the hearing YEC filed
5 interrogatory responses YUB-YEC-2-10(f) which identified the potential option of
6 purchasing four high speed diesel units from Minto at the Mine site as part of the PPA
7 negotiations. Please see YUB-YEC-1-8 for further discussion.

8

9

10 **(b)**

11 No. The only way Minto can increase its contract demand is pursuant to the PPA, and
12 any such increase would be provided by "grid electricity".

13

14

15

16

17 Section 4.5 of the PPA sets out that YEC's obligation to supply Mine Firm Electricity to
18 Minto will not exceed the Maximum Electric Demand in effect at any time. If Minto
19 requires an increase to its Maximum Electric Demand in excess of that under section
20 4.1(a) Minto must provide YEC with written notice of the specified amount of the
21 requested increase together with the period of time during which the increase is required
22 and the related increase in Mine Firm Electricity Electric Energy requirement. After
23 receipt of the notice under section 4.5(a) of the PPA, section 4.5(b) provides that YEC
24 will review the request and determine whether or not its facilities have the transmission
25 capacity to supply and maintain that increased Electric Demand, as well as any potential
26 requirement for an increase to the Mine Firm Rate related to such increase in Mine Firm
27 Electricity Electric Energy and YEC will forthwith provide written notice to Minto of YEC's
28 determinations. If YEC is unable to agree to the requested increase in Maximum Electric
29 Demand, no increase in Maximum Electric Demand will be provided.

30

31

32

33

34

35

36

37

38 Minto may only require that the Diesel Units be used to supply electricity to the Mine in
39 circumstances where (1) under section 4.8 Minto considers its equipment at the mine to
40 be at risk of damage from the supply of Grid Electricity by YEC under the Agreement,
41 and (2) under 10.4 (b) if YEC is unable to deliver Grid Electricity to the Mine. In both
42 cases Minto may only require that the Diesel units be used to supply the Mine where
43 YEC is also otherwise unable to use the Diesel Units to supply Electricity to the WAF
44 grid. In both cases Minto will also pay the sole cost for fuel and operator assistance.

1 **(c)**

2 No, the intent of the N-1 portion of YEC's current capacity planning criteria is not
3 negated by the PPA provisions regarding the Diesel Units.

4 An outage of the Aishihik Transmission Line, in and of itself, would not prevent YEC from
5 supplying Grid Electricity to the Mine. The mine is to be provided firm service, which
6 would be provided from Grid Electricity (including integrated supply from Whitehorse,
7 Faro, YECL's WAF diesels, and YEC's diesel loads located at the Minto mine). Loss of
8 the Aishihik line during non winter peak periods, for example, would not necessarily
9 prevent YEC from supplying Grid Electricity to the Mine.

10 Conversely, the Mine Diesel Units may be used by YEC to supply power needed to the
11 WAF grid. In an extreme situation of an emergency resulting from failure of the Aishihik
12 line, YEC could terminate service to the Minto Mine and require use of the Mine Diesel
13 Units to supply other non-industrial customers on the WAF grid.

14 Minto itself may only require the use of the Diesel Units at the Mine Site in
15 circumstances as set out in 10.4(b) (or section 4.8) where YEC is otherwise also unable
16 to use the Diesel Units to supply Electricity to the WAF grid. In these specific and
17 limiting circumstances Minto may provide written notice to YEC requiring that the Diesel
18 Units be used to supply the Mine with Electricity, and if the Diesel Units are used to
19 supply the Mine, Minto must pay the cost of fuel and operator assistance.

20 The only situation that could give rise to sections 10.4(b) or 4.8, where Minto can require
21 that the YEC diesels at Minto be operated to provide supply to the Mine, is if Minto is
22 unable to use these units to supply the WAF grid (which clearly includes cases where
23 line failure isolates the Mine from the main components of the WAF grid). This type of
24 isolated operation for this Mine is not relevant to consideration of N-1 or LOLE
25 calculations for the purpose of YEC's current capacity planning criteria.

26 **(d)**

27 Minto has estimated that at Commencement of Delivery (assuming this occurs about 16
28 to 19 months after start of the Mine's commercial operations), two diesel units will have
29 14,000 hours of service, one unit will be at 11,000 hours and one unit will be at 6,000
30 hours (overall total of about 45,000 hours of service for all four units).

1 **(e)**

2 3 Please see YUB-YEC-1-8 and YUB-YEC-1-13; also YCS-YEC-1-3.

4 **(f)**

5 7 Please see answer to YUB-YEC-1-8(1) and YCS-YEC-1-3.

6 9 These units were referenced in the Resource Plan hearing primarily as a near term
10 contingency option to facilitate meeting WAF capacity planning needs in a cost effective
11 and timely manner. The price for these units under the PPA (i.e., not exceeding \$350
12 per kW) is very competitive with costs estimated on the Resource Plan Hearing for the
13 Mirrlees Life Extension Project. Should the PPA be approved and the CS/MS Project
14 proceed, YEC will reassess the timing of the Mirrlees Life Extension plans in the context
15 of having the Mine Site diesel capacity available in the near term on the WAF system.

16 17 YUB-YEC-1-8 sets out additional contingency benefits that also related to the purchase
18 of these units.

19 **(g)**

21 22 Provided the conditions as set out in Section 10.2 of the PPA are met, YEC will
23 purchase the Diesel Units.

24 25 Section 10.2 of the PPA set out that YEC's obligation to take on assignment of the Cat
26 Leases is conditional upon the conditions listed in 10.2(a) through (f) being either fulfilled
27 as set out or waived by YEC. YEC must be provided with written confirmation that the
28 Cat Leases are in good standing and that all amounts due and owing under the Cat
29 Leases have been paid in full and that Minto is able to make the payments under 10.3(b)
30 of the PPA. Minto and Sherwood must also assign all other warranty rights on the Diesel
31 Units under the Cat Leases or under any other warranty on the Diesel Units.

32 33 Under condition 10.2(d) Minto must provide all maintenance records for the Diesel Units
34 to YEC, including daily operator logs, all oil and filter changes, oil sample analysis and a
35 record of all routine and non-routine work done and all overhaul reports, and per
36 condition 10.2(h), YEC having an opportunity to inspect the Diesel Units and being

1 satisfied, acting reasonably, that the condition of such Diesel Units is consistent with
2 sections 10.2(e), (f) and (g) as follows:

3

4 • Prior to taking assignment of the Diesel Units YEC must be satisfied that the
5 Diesel units are in good condition and fit for their intended purpose at time of
6 purchase.

7 • Minto representing and warranting to YEC that as at Commencement of Delivery,
8 each of the Diesel Units: (i) has a continuous rating of at least 1600 kW per
9 generator at 4160 V output; (ii) conforms to the specifications and descriptions in
10 Schedule G of the PPA.

11 • Minto performing prior to purchase by YEC (i) a minor or top end overhaul on
12 each of the Diesel Units in accordance with manufacturer recommendations for
13 an overhaul on such a Diesel Unit with approximately 8,000 hours of operation;
14 and (ii) for each of the Diesel Units with 16,000 hours of operation or more, a
15 major overhaul in accordance with manufacturer recommendations for an
16 overhaul of such a Diesel Unit with approximately 16,000 hours of operation.

17

18 Under section 10.2(i), YEC and Minto must also execute and deliver the following
19 agreements:

20

21 • A sub-lease and an easement or right of way providing YEC with access to the
22 Mine and Mine Site to provide YEC with access at all times to the Diesel Units
23 located in the Diesel Plant Site at a fee of \$10.00 per year.

24 • An operating agreement under which Minto will provide YEC with fuel and
25 operator assistance and fuel inventory, as reasonably required by YEC to
26 operate the Diesel Units, the costs for such assistance to be charged by Minto to
27 YEC on a monthly basis at Minto's actual costs (including direct and reasonable
28 indirect costs and, in relation to fuel cost, taxes on fuel applicable to stationary
29 diesel use by YEC) for payment by YEC within 15 business days of receipt of
30 such invoice.

31 • If possible, Minto assigning to YEC permits and licences required to operate the
32 Diesel Units, on terms and conditions satisfactory to YEC, acting reasonably.

33

34 The parties must exercise commercially reasonable efforts to ensure the conditions in
35 10.2 for which they are responsible are either fulfilled or waived on or before
36 Commencement of Delivery, and if any conditions are not fulfilled or waived by that date,
37 YEC will not be bound to take assignment of the leases.

1 **REFERENCE: Section 4.1 of the PPA (Pages 18) and Page 8 of the Application**

2

3 **PREAMBLE:**

4

5 YEC is proposing a new rate that would only be available to customers supplied under
6 Rate Schedule 39 with availability determined by YEC based on surplus hydro as well as
7 transmission capacity as well as meeting the electrical demand of customers served by
8 Rate Schedule 32. The rate is only to be used at a mine site engaged primarily in
9 copper production for processing ore with less than 1% copper content.

10

11 **QUESTION:**

12

13 a) Secondary Sales Rate Schedule 32 is based on the premise of avoided costs.
14 The rate changes on a quarterly basis to reflect changes in the underlying
15 avoided costs. Please explain why this rate, selling the same product, is not
16 based on the premise of avoided costs?

17 b) Given the PPA does not propose to have separate revenue class metering for
18 energy delivered under Rate Schedule 35 and 39, please explain, in detail, how
19 YEC proposes it will be able to determine what portion of measured energy and
20 measured demand will be allocated to Rate Schedule 39 as opposed to Rate
21 Schedule 35.

22 c) Can YEC provide any examples where a utility charges for electricity delivered
23 on anything other than revenue class metering?

24 d) Can YEC provide examples where a utility allows a customer to be responsible
25 for allocating the amount of energy between two rate schedules?

26 e) How in real time, can YEC determine that there is enough surplus hydro
27 generated energy after serving secondary sales customers on Rate 32 to allow
28 energy sales to Rate 35 customers?

29 f) Why has YEC proposed to have Rate Schedule 35 only be applicable to the
30 processing of low grade "copper"? Were any other metals considered?

31 g) Why was a copper content of less than 1% chosen as the threshold?

32 h) For greater clarity, please provide a numerical example that shows the maximum
33 amount of Rate Schedule 35 demand and energy that Minto Explorations would
34 be able to receive in a given calendar year.

35 i) For greater clarity, please provide a numerical example that shows the weighted
36 average energy rate Minto Explorations will be paying for electricity assuming it

1 takes the maximum amount of energy allowed under Rate Schedules 35 and 39
2 in a given calendar year.

3

4 **ANSWER:**

5

6 **(a)**

7

8 One reason avoided costs are not used as a measure in setting the rate for the Low
9 Grade Ore service is that Minto has no external “avoided costs” related to processing
10 Low Grade Ore. Absent this rate schedule, as noted in the Application at page 9, Minto
11 either can use the Firm Mine Rate to process this ore (if economic conditions so allow)
12 or simply not proceed to process this stockpiled ore. This situation differs fundamentally
13 from that facing Rate Schedule 32 customers (where heat must be secured one way or
14 the other, and the customer must under the rate have installed an alternative source of
15 heat energy the cost of which is therefore “avoided” when Rate Schedule 32 service is
16 used). To the extent that Minto is “avoiding” a cost in this instance, it is the relatively
17 stable Firm Mine Rate rather than a quarterly fluctuating oil-based energy alternative.

18

19 In summary, Rate 35 is selling a product that at first glance appears to be the same as
20 what Rate 32 is selling, i.e., interruptible surplus hydro energy. However, there are
21 major differences in the customer use characteristics for this “same” product – and there
22 are also major differences in the terms and conditions associated with each “product”
23 (including differences in priority access to the product).

24

25 **(b)**

26

27 Please see YUB-YEC-1-11(2).

28

29 Rate Schedule 35, in the written text of Schedule D, sets out three approaches to
30 assessing the quantity of power that qualifies under Rate Schedule 35 as opposed to
31 Rate Schedule 39 (under “Applicable” point (2) parts (a) through (c)).

32

33 **(c)**

34

35 YEC is aware of a number of other jurisdictions where multiple rate offerings can be
36 provided via the same meter.

37

1 For example, industrial customers in Newfoundland can receive firm power for all service
2 up to their specified “power on order” level (measured in MW - set in each individual
3 contract) and any power consumed in excess of this level is a form of interruptible power
4 with different rates for demand and energy than the normal firm power rates.

5

6 A similar rate offering in Manitoba, the Industrial Surplus Energy program, offered
7 interruptible power as a supplement to firm service which did not require a separate
8 meter. Energy under this rate schedule comprised all power taken above a specified
9 “Reference Demand” level.

10

11 (d)

12

13 Examples cited under (c) above rely upon clear rules to establish the portion of the
14 metered energy used for different allowed rates and purposes. The customer under
15 Rate Schedule 35 will need to address similar reporting needs, and will not be granted
16 the discretion implied in the question.

17

18 Please see YUB-YEC-1-11(2) for an explanation of how auditing of the Low Grade Ore
19 Processing Secondary Energy will work. The rate will only apply when reporting, as
20 reasonably required by YEC, can be established to confirm or determine the amount of
21 secondary energy used at the Mine site as distinct from firm energy under the Firm Mine
22 rate. Failing such reporting as reasonably required by YEC, all energy use will be
23 charged at the Firm Mine Rate. The parties intend to work together to establish
24 auditable reporting and controls as reasonably required by YEC to confirm the
25 secondary energy has been used only to process Low Grade Ore.

26

27 (e)

28

29 Rate Schedule 35 set out in Schedule D of the PPA, provides that YEC will notify
30 participating customers on at least a seasonal basis, and more frequently as required, as
31 to the expected availability (if any) of such secondary energy, and the customer and
32 YEC shall then agree in writing from time to time as to the maximum Secondary Energy
33 available to the customer under Rate Schedule 35 (mention is made of possible weekly
34 arrangements as to allowed maximum energy use during peak winter months).
35 Provision is made also under Rate 35 for interruption on short notice (within no more
36 than 24 hours) if conditions so require.

37

1 YEC has the discretion to end subscription to the project (and limit quantities delivered)
2 on either of its systems when the supply of surplus energy on that system becomes fully
3 contracted under Rate Schedule 32.

4
5 **(f)**

6
7 Please see YUB-YEC-1-11(2) and YCS-YEC-1-2.

8

9 **(g)**

10
11 Please see YUB-YEC-1-11(2) and YCS-YEC-1-2.

12

13 **(h) and (i)**

14

15 The maximum Rate Schedule 35 (Low Grade Ore Processing Secondary Energy) that
16 Minto can take in any one year period is set out at section 4.1 of the PPA.

17

18 In the initial years (prior to the Capital Cost Contribution plus accrued interest being fully
19 paid, or June 30, 2015, whichever is earlier), Minto's use of this rate schedule is subject
20 to Minto first consuming 32 GW.h of Mine Firm Electricity. Energy consumed above 32
21 GW.h can be used under Rate Schedule 35 so long as it meets all of the terms and
22 conditions of this rate schedule and Minto's total consumption (Rate Schedule 39 plus
23 35) does not exceed 4.4 MVA (unless Minto at some point requests and YEC agrees to
24 an increase in this maximum demand – section 4.1 provides for such an increase to 6.0
25 MV.A on six month's notice).

26

27 Assuming the current allowed for Maximum Electric Demand (4.4 MV.A), even at a very
28 high power and load factor (95% and 90% respectively), the maximum energy that can
29 be delivered at the Maximum Electric Demand of 4.4 MV.A is only about 33.0 GW.h, or a
30 maximum Low Grade Ore Processing Energy of 1 GW.h. Under this scenario, the total
31 bill to Minto would be as follows:

32

33 • 12 months times 4.4 MVA times \$15.00 for a total demand charge of \$792,000
34 • 32 GW.h times 7.60 cents/kW.h for a total Firm Energy charge of \$2.432 million
35 • 1 GW.h times 6.00 cents/kW.h for a total Low Grade Ore energy charge of
36 \$0.060 million
37 • Total annual bill - \$3.284 million, or an average energy cost of 9.952 cents/kW.h

1 Alternatively, assuming that the allowed for Maximum Electric Demand is increased to
2 6.0 MV.A as provided for in Section 4.1, at the same very high power and load factor
3 (95% and 90% respectively), the maximum energy that can be delivered at the
4 Maximum Electric Demand of 6.0 MV.A is about 44.9 GW.h (which is 2.9 GW.h/year
5 higher than the maximum annual Electric Energy of 42 GWh/year allowed to be
6 delivered under Section 4.1). Assuming under this scenario a maximum Low Grade Ore
7 Processing Energy of 10 GW.h, and agreement (supported by adequate records and
8 auditable reporting) that the added MV.A above 4.4 MV.A relates only to Rate 35 use,
9 the total bill to Minto would be as follows:

10

- 11 • 12 months times 4.4 MVA times \$15.00 for a total demand charge of \$792,000
- 12 • 32 GW.h times 7.60 cents/kW.h for a total Firm Energy charge of \$2.432 million
- 13 • 10 GW.h times 6.00 cents/kW.h for a total Low Grade Ore energy charge of
- 14 \$0.600 million
- 15 • Total annual bill - \$3.824 million, or an average energy cost of 9.105 cents/kW.h

16

17 In later years (after the Capital Cost Contribution plus accrued interest being fully paid,
18 or June 30, 2015, whichever is earlier), Minto will be allowed to use Rate 35 secondary
19 energy up to Minto's full maximum Electric Energy permitted under Section 4.1(a) (i.e.,
20 42 GWh./year), subject to the same Maximum Electric Demand limits. YEC has not
21 estimates of the maximum amounts that might result, but in theory all of the Mine
22 processing energy might in some years be Rate 35 energy at 6.0 cents per kW.h
23 (assuming reliance only on stockpiled Low Grade Ore).

1 **REFERENCE: Schedule 1 (Page 4) of the Application**

2

3 **PREAMBLE:**

4

5 YEC has provided estimated Project capital costs ranging from \$17.2 million to \$23.1
6 million. Per Section 3.2 of the Application, by July 31, 2007, YEC will have received
7 tenders for equipment and materials and as otherwise required for construction of the
8 Transmission Project and the YEC Board of Directors will have approved contracts for
9 the construction of the Transmission Project.

10

11 **QUESTION:**

12

13 1. In YEC's opinion, at what Project capital cost does the Transmission Project
14 become uneconomic?

15

16 **ANSWER:**

17

18 At this time analysis in the Application suggests that the project remains economic within
19 the range of costs considered to date, and YEC has not determined at what capital cost
20 the Transmission Project would become uneconomic. YEC will continue to review this
21 matter during the coming months.

1 **REFERENCE: Schedule 1 (Page 4) of the Application; Page 3 of the PPA**
2

3 **PREAMBLE:**
4

5 Regardless of the actual costs incurred by YEC in constructing the transmission line
6 from Carmacks to Minto Landing, Minto Explorations' contribution is fixed at \$7.2 million.
7

8 **QUESTION:**
9

- 10 a) Please explain how this arrangement is consistent with the long established
11 principle of customers paying actual costs incurred to provide service.
- 12 b) Given the design, procurement and construction of the transmission and the spur
13 line are expected to happen simultaneously, please explain, in detail, how YEC
14 intends to demonstrate appropriate costs will be allocated to the spur line as
15 opposed to the transmission line.
- 16 c) If there are costs overruns (or savings) on actuals vs. estimates on the
17 transmission line between Carmacks and Minto Landing, does YEC agree it is
18 reasonable to allocate a consistent percentage increase (or decrease) to the \$7.2
19 million estimate? If not, why not?

20
21 **ANSWER:**
22

23 (a)
24

25 Please see YUB-YEC-1-7.
26

27 (b)
28

29 Please see YUB-YEC-1-7 and PWP-YEC-1-11.
30

31 (c)
32

33 Please see YUB-YEC-1-9.

1 **REFERENCE: Attachment C Mine Net Revenue Account Examples**

2

3 **PREAMBLE:**

4

5 The PPA defines the Mine Net Revenue in any YEC fiscal year as the amount, if any,
6 equal to:

7

8 a) The Minto Power Bills plus any take-or-pay payments by Minto in that fiscal year,
9 less.

10 b) The Incremental YEC Costs in that fiscal year. These specific incremental costs
11 are defined as incremental YEC expenses and return on rate base in that year, if
12 any, due to the supply of Electricity to Minto by YEC (1).

13

14 **QUESTION:**

15

16 a) If Carmacks Copper becomes a customer of YEC, please explain whether the
17 revenue from their power bills flows into this Mine Net Revenue Account. If not,
18 will YEC commit to filing GRA at that time so that other customers will have their
19 rates reduced accordingly?

20 b) In footnote 1 on page C-1, YEC has committed to including any incremental
21 increase in expenses and return on rate base related to accelerated development
22 of other YEC generation projects to displace diesel generation that would
23 otherwise not have been required if YEC was not supplying Electricity to Minto.
24 Assuming that YEC intends to include industrial load in its LOLE calculations,
25 why has YEC not included the cost of capacity related generation projects that
26 will be accelerated due to the supplying of Electricity to Minto?

27 c) With respect to the "Incremental Decrease in Secondary Sales" associated with
28 serving the Minto Mine as opposed to Rate Schedule 32 customers, please
29 explain why the base case secondary sales have been reduced from 30 GW.h in
30 the 20 Year Resource Plan to 20 GW.h in YEC's latest application?

31 d) Please explain how current ratepayers are held harmless under YEC's Mine Net
32 Revenue Account if they are no longer going to benefit from additional secondary
33 sales as secondary sales move from their current level of approximately 20
34 GW.h's per year up to a future total of 30 GW.h's per year?

35

36

37

1 **ANSWER:**

2 **(a)**

3 The PPA with Minto makes no provision for inclusion of any non-Minto revenues in this
4 specific Mine Net Revenue Account (i.e., this account does not provide for inclusion of
5 Carmacks Copper revenues).

6 A PPA will be required with Carmacks Copper before YEC would undertake to develop
7 the necessary spur line connection to this mine. YEC assumes that any such PPA with
8 Carmacks Copper will require YUB approval, and thus provide the opportunity for review
9 of all relevant issues. YEC anticipates also that material differences in circumstances
10 relative to the Minto PPA will need to be addressed for each new industrial customer and
11 any related new PPAs (See response to YUB-YEC-1-34, YECL-YEC-1-3(g)).

12 **(b)**

13 With or without Minto, the N-1 criteria (which ignores industrial loads) is the driving factor
14 at this time for new investment in WAF generation for capacity reasons. As a result, as
15 reviewed in the Resource Plan hearing, there is no incremental cost impact on
16 generation capacity from serving Minto. The Resource Plan hearing also noted that this
17 situation may change if additional mine loads are added to WAF.

18 **(c) and (d)**

19 Yukon Energy currently has WAF Rate 32 secondary sales volumes that have remained
20 reasonably stable in the last two years at approximately 20 GW.h depending on the
21 weather and other conditions in any particular year. At this time, YEC does not expect to
22 see added secondary customers or added secondary sales loads on the WAF system.
23 In this context it is not clear what is meant by the statement "as secondary sales move
24 from their current level of approximately 20 GW.h's per year up to a future total of 30
25 GW.h's per year". In particular, aside from lack of evidence of any such growth, any new
26 Rate 32 customers today would also need to note the risk that further additions to mine
27 load could remove all of the hydro surplus in the very near term (such that a new Rate
28 35 customer might face material difficulty recovering any fixed investments in such
29 service).

1 **REFERENCE: Attachment D of Application**

2

3 **PREAMBLE:**

4

5 Attachment D estimates Minto Explorations' electricity power cost savings with and
6 without the PPA as well as with and without YEC buying the on site diesel units.

7

8 **QUESTION:**

9

10 a) Please indicate, in the YEC's opinion, the reasonableness of Minto Explorations'
11 on site diesel cost estimate of the \$.24/for on-site diesel generation. YEC's
12 analysis should include a breakdown of the unit cost into O & M, fuel and capital.
13 Please also indicate the diesel cost per liter and the assumed heat rate.

14 b) Please provide the Internal Rate of Return (IRR) and the payback period for
15 Minto Explorations on this PPA. Please comment on the reasonableness of this
16 IRR compared to other projects.

17 c) Please provide this Table D-1 with the assumption that the contribution for the
18 Spur Line and Minto's portion of the Carmacks to Pelly portion was 100% paid for
19 at the commencement of grid service.

20 d) Please provide the Table D-1 in response to C but with fuel and O & M costs
21 escalating at 2% as opposed to the 0% used in the provided analysis. (Note:
22 YEC used an inflation rate of 2% in Attachment B – Minto Mine Impact on the
23 WAF System.) Please comment on the rate of increase in grid rates versus the
24 escalation of the cost of diesel.

25 e) In YEC's opinion, please elaborate what risk, if any, Minto Explorations has
26 accepted with the proposed PPA.

27

28 **ANSWER:**

29

30 (a)

31

32 The full basis for the Minto 24 cent/kWh estimate is part of the confidential Feasibility
33 Study. YEC believes that this estimate appears to be consistent with the earlier
34 Resource Plan diesel fuel price estimates (in range of 70-75 cents/litre), and as such
35 likely understates more recent diesel fuel price experience within the past year. The
36 heat rate for the Diesel Units approximates 3.7 kW.h/L

37

1 **(b)**

2

3 Please see Table D-1 of the Application, which indicates a present value savings to
4 Minto of \$16.61 million (2007\$) at a discount rate of 7.5%. YEC cannot comment on
5 what other investment opportunities maybe available to Minto or what their respective
6 returns might be.

7

8 **(c)**

9

10 See Attached "YECL-YEC-1-14(c) - Revised Table D-1". The change in NPV for Minto
11 (excluding the diesel unit purchase) under this scenario compared to Table D-1 in the
12 Application is from \$16.61 million to \$16.65 million (2007\$) at a 7.5% discount rate. The
13 minimal change in NPV is because the carrying cost of the loan (7.5%) is equal to the
14 discount rate. To the extent Minto assumes a different internal time value of money for
15 their own analysis (which YEC understands to be materially higher than 7.5%), the two
16 scenarios would have widely varying NPVs with the upfront payment version being far
17 less attractive (far lower NPV of savings) to Minto than the YEC financed version.

18

19 **(d)**

20

21 See Attached "YECL-YEC-1-14(d) - Revised Table D-1" YEC has no comment on
22 assumed inflation rates for diesel generation versus Rate 39.

23

24 **(e)**

25

26 The PPA was not established with Minto in order to have Minto adopt new risks related
27 to their operations. The PPA was established in order to achieve benefits for Minto and
28 YEC ratepayers. Minto has risk under the PPA as regard the take-or-pay obligation and
29 all of its fixed cost obligations undertaken.

YECL-YEC-1-14(c) Revised Table D-1: Summary of Minto Electricity Cost Cash Flows with and without PPA (\$000,000)

Power Requirement at 32.5 GW.h/year - 2008 through 2016

	Year Year Starting :	Minto Electricity Cash Flows (\$million)								
		1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016
(\$/kWh (2008\$))										
On Site Diesel (without PPA)	0.24	3.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Minto Electricity Costs with PPA										
Power Rate	0.10	1.63	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Capital Cost Contribution at \$11 million										
Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)										
CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs)										
Total Capital Cost Contribution Payments		11.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Total PPA Grid Power Cost		12.65	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Net Cash Saving for Minto Electricity	^{PV} 7.5% \$16.65	-8.75	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55

Summary of Minto Electricity Cost Cash Flows with and without PPA inducing Diesel Units (\$000,000)

Power Requirement at 32.5 GW.h/year - 2008 through 2016

	Year Year Starting :	Minto Electricity Cash Flows (\$million)								
		1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016
(\$/kWh)										
On Site Diesel (without PPA)	0.24	3.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Minto Electricity Costs with PPA										
Power Rate	0.10	1.63	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Capital Cost Contribution at \$11 million										
Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)		0.35	0.70	0.70	0.70	0.70	0.70	0.70	0.35	-
Diesel Units offset payments by YEC (\$2.24 million)	^{PV} (\$2.09)	-0.20	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.20	-
Total Including Diesel		0.15	0.29	0.29	0.29	0.29	0.29	0.29	0.15	0.00
CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs)		0.26	0.52	0.52	0.52	1.60	2.68	2.68	1.34	-
Total Capital Cost Contribution Payments		0.41	0.81	0.81	0.81	1.89	2.97	2.97	1.48	-
Total PPA Grid Power Cost		2.03	4.06	4.06	4.06	5.14	6.22	6.22	4.73	3.25
Net Cash Saving for Minto Electricity	^{PV} 7.5% \$18.70	1.87	3.74	3.74	3.74	2.66	1.58	1.58	3.07	4.55

YECL-YEC-1-14(d) Revised Table D-1: Summary of Minto Electricity Cost Cash Flows with and without PPA (\$000,000)

Power Requirement at 32.5 GW.h/year - 2008 through 2016

Summary of Minto Electricity Cost Cash Flows with and without PPA inducing Diesel Units (\$000,000)

Power Requirement at 32.5 GW.h/year - 2008 through 2016

1 **REFERENCE: Schedule A-1 of the Application**

2 **PREAMBLE:**

5 The load of Minto is expressed as 32, 500 MWh, coincident peak demand of 4,004 kW
6 and a peak annual demand of 4,400 kW (non-coincident peak).

8 **QUESTION:**

10 a) Please indicate what due diligence YEC did to verify this load level.
11 b) Please indicate what analysis YEC has done to justify such a high load factor.

13 **ANSWER:**

15 **(a) and (b)**

17 The energy loads overall (32.5 GWh/year, number of years) reflect the public information
18 from the Feasibility Study results prepared by Hatch and related information released by
19 Minto.

21 The PPA sets out Minto's requirements, i.e., Minto has specified its maximum kV.A
22 electric demand (which results in the observed load factors, given the energy loads).
23 YEC has not done any separate review of the required kV.A demand loads, or any
24 analysis to justify the load factor.

1 **REFERENCE: Schedule C Firm Mine Rate Schedule 39 and OIC 1995/90**

2

3 **PREAMBLE:**

4

5 YEC states that the rate is available throughout the YEC service area and the OIC states
6 that "6.1(1) ...and the rates charged by both utilities must be the same."

7

8 **QUESTION:**

9

- 10 a) Please describe the rate design principles YEC used in designing the proposed
11 demand vs. energy charges. That is, the proposed demand change is
12 decreasing whereas the proposed energy charge is increasing.
- 13 b) Please indicate why Rate Schedule 39 does not state that it is available
14 throughout YECL service area?
- 15 c) Please indicate why under the Fixed Charge that there is not a statement that
16 reads "A fixed monthly charge as determined for each customer based on fixed
17 customer-specific costs of service. To date, the following amount has been
18 determined:"
- 19 d) Contrary to the current Rate Schedule 39, please explain why YEC has chosen
20 to exclude the fuel rider (Rider F) from the proposed revised rate.
- 21 e) Does YEC propose to include Rider F for future Rate Schedule 39 customers
22 that are ineligible for the Mine Net Revenue Account? Please elaborate as to
23 why or why not.

24

25 **ANSWER:**

26

27 (a)

28

29 Cost of service principles and methods used to determine the Firm Mine Rate are set out
30 in Schedule A of the PPA Application and further discussed in YUB-YEC-1-10 and YUB-
31 YEC-1-20. See also UCG-YEC-1-40 for review of differences between the existing and
32 proposed Rate 39.

33

34 (b)

35

36 This is a YEC Application, and during the period of YEC's existence YECL has not
37 served major industrial customers. It is also not clear how, if at all, the rate may need

1 modification in the event that such a customer was to be served in future from YECL's
2 distribution system areas.

3

4 (c)

5

6 This is not a material change or issue. Currently, Minto is the only Firm Mine Rate
7 customer. In the future, if a new Firm Mine Rate customer wishes to receive service
8 under the Firm Mine Rate it is anticipated that, among any other changes needed to
9 Rate 39, the fixed charge will be amended to specify any additional fixed monthly charge
10 as determined between YEC and the new customer based on fixed customer-specific
11 costs of service.

12

13 (d)

14

15 YEC has determined a rate for Minto that collects the full cost of service for the system
16 including diesel fuel at today's forecast prices. Rider F is an account that solely adjusts
17 for changes in diesel fuel since the respective classes' firm rate was last established,
18 which for all other classes served by YECL is the late 1990s when diesel prices were
19 much lower.

20

21 Also, unlike the Rate Schedule 39 in place when the Faro mine was on the system, there
22 is no material diesel on WAF today, and the diesel for isolated systems continues to
23 decline with the conversion of Dawson and Stewart Crossing and planned conversion or
24 Pelly Crossing to hydro systems. To the extent that diesel fuel is required on WAF after
25 the Minto mine is connected, substantial components of this diesel would be assigned to
26 the Mine Net Revenue Account in any event (charged at full diesel prices then in effect),
27 so there is no basis for a Rider F adjustment.

28

29 (e)

30

31 YEC will review the appropriate approach on this matter for future Rate 39 customers at
32 the time when arrangements are being made with these customers and applications are
33 being prepared to the YUB for any adjustments needed to Rate 39.

1 **REFERENCE: Schedule D Rate Schedule 35 and OIC 1995/90**

2 **PREAMBLE:**

3 YEC states that the rate is available in parts of the Whitehorse-Aishihik Faro and Mayo-
4 Dawson systems as determined by Yukon Energy Corporation and the OIC states that
5 "6.(1) ...and the rates charged by both utilities must be the same."

6 **QUESTION:**

7

8

9

10 a) Please indicate why Rate Schedule 35 does not state that it is available in all
11 parts of the two grids?

12 b) Please indicate why it states as determined by only YEC?

13 c) Please indicate if this rate will be offered to other mines that are processing other
14 "low grade" ore bodies?

15 **ANSWER:**

16

17 (a)

18

19 The Rate Schedule does note that the rate is available on "the Whitehorse-Aishihik-Faro
20 and Mayo-Dawson systems".

21

22 (b)

23

24 The rate is based on their being a surplus at Yukon Energy's hydro generating plants.
25 This is consistent with the wording in the approved Rate Schedule 32 for the existing
26 Secondary Energy rate offering.

27

28 (c)

29

30 Please see YUB-YEC-1-11, YCS-YEC-1-2, and YECL-YEC-1-10. Currently, the rate
31 only has relevance with regard to processing Low Grade Ore at a mine site engaged
32 primarily in copper production as defined in the PPA. The Low Grade Ore criteria would
33 have no meaning or relevance in the case of a mine site not engaged primarily in copper
34 production. YEC intends to review this terminology in the event that any other mine
35 emerges that might potentially meet such a criterion on circumstances where the rate
36

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- 1 might be available due to surplus hydro still be available. Any potential future revisions
- 2 to the rate will need to be assessed at that time based on the facts and forecasts then
- 3 available.

1 **REFERENCE: Section 5.1.2 of the Application and the Yukon Development**
2 **Corporation Regulation**

3
4 **PREAMBLE:**

5
6 In the Yukon Development Corporation's Regulations, reference is made that the Board
7 of Directors of the Yukon Development Corporation is responsible to ensure the Yukon
8 Energy Corporation adopts generally accepted accounting procedures appropriate for an
9 electric utility.

10
11 **QUESTION:**

12
13 a) Does YEC believe the proposed accounting treatment of the Mine Net Revenue
14 Account is in accordance with Generally Accepted Accounting Principles?
15 Please elaborate as to why or why not.

16 b) Has YEC confirmed or had discussions with its auditor, the Auditor General of
17 Canada, as to whether the accounting treatment associated with its proposed
18 Mine Net Revenue Account is in accordance with Generally Accepted Accounting
19 Principles? If yes, please elaborate as to when these discussions are expected
20 to take place.

21 c) If the proposed accounting treatment is not in accordance with Generally
22 Accepted Accounting Principles, how does YEC intend on meeting the
23 requirements of the Yukon Development Corporation's Regulations?

24 d) If the proposed accounting treatment is not in accordance with Generally
25 Accepted Accounting Principles, please explain, in YEC's opinion, the financial
26 and or other impacts expected as a result of receiving a qualified audit opinion.

27
28 **ANSWER:**

29
30 **(a) and (b)**

31
32 The primary source of generally accepted accounting principles for entities in Canada is
33 the Canadian Institute of Chartered Accountants Handbook, which is largely silent on
34 specific accounting treatment for regulated accounts and transactions. The Accounting
35 Standards Board of the CICA, which sets the standards described in the Handbook, has
36 advised that entities meeting the definition of a regulated entity may choose to rely on
37 the US Statement of Financial Accounting Standard 71 (FAS 71). YEC and its auditors

1 have reviewed the applicable definitions and confirmed that YEC meets the definition of
2 a regulated entity.

3

4 As defined in the PPA, the Mine Net Revenue Account is expected to be a mechanism
5 that will be approved by the YUB so as to create an account balance that YEC will hold
6 until the regulator directs its disposition to the benefit of ratepayers. This is consistent
7 with the provisions of section 11 of FAS 71, which notes:

8

9 Rate actions of a regulator can impose a liability on a regulated enterprise. Such
10 liabilities are usually obligations to the enterprises' customers. A regulator can
11 require that a gain...be given to customers over future periods. That would be
12 accomplished, for rate-making purposes, by amortizing the gain over those future
13 periods and reducing rates to reduce revenues in approximately the amount of
14 the amortization. If a gain is to be amortized over future periods for rate-making
15 purposes, the regulated enterprise shall not recognize that gain in income of the
16 current period. Instead, it shall record it as a liability for future reductions of
17 charges to customers that are expected to result.

18

19 In this regard, the YUB's approval of the Mine Net Revenue Account as described in the
20 PPA would confirm the accounting treatment set out by YEC, and therefore be
21 considered to be consistent with generally accepted accounting principles.

22

23 YEC has not specifically discussed the Mine Net Revenue account with its auditors, but
24 has addressed a number of similar "regulatory liability" accounts in the past on roughly
25 the same basis in its financial statements (e.g., the Faro Mine Dewatering Account).

26

27 **(c) and (d)**

28

29 YEC does not expect to receive a qualified audit opinion related to this account. The
30 Mine Net Revenue account is primarily a tool for setting rates under the YUB.
31 Regardless as whether this ultimately becomes an issue with the auditors, YEC will
32 ensure that for setting rates and all matters related to the YUB, the Mine Net Revenue
33 account operates pursuant to the PPA and YUB approvals.

1 **REFERENCE: Section 5.1.5 of the Application and Part 11 of the PPA**

2 **PREAMBLE:**

3 In Section 5.1.5 of the Application, YEC states “Estimated Decommissioning Costs,
4 established prior to actual decommissioning, equal 25% of the Capital Cost to build the
5 Mine Spur”

6 **QUESTION:**

7

8 a) Please detail how the 25% of Capital Cost was derived.
9 b) Please confirm whether this rate is consistent with what YEC currently has in its
10 most recent depreciation study and associated rates. If there is a difference,
11 please elaborate as to why.

12 **ANSWER:**

13 **(a) and (b)**

14 The rate is based on YEC’s last depreciation study, which sets salvage costs for
15 transmission components approximately averaging 25%, as follows:

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

- Poles and fixtures – 35%
- Brushing – 0%
- Survey Costs – 0%
- Overhead Conductors/Poles – 15%
- Overhead Conductors/Towers – 20%
- Substation Equipment – 15%
- Substation Buildings – 10%
- Substation Fences – 5%

1 **REFERENCE:** **Section 5.1.1 (Page 13) of the Application and Definitions in the**
2 **PPA**

3

4 **PREAMBLE:**

5

6 Yukon Electrical would like to better understand the capital cost estimate associated with
7 this portion of the line.

8

9 **QUESTION:**

10

- 11 a) Please provide a detailed cost estimate of a 35 kV line for this segment of the CS
12 project
- 13 b) Please confirm whether this estimate was derived in house or whether there was
14 any input from third parties.

15

16 **ANSWER:**

17

18 **(a) and (b)**

19

20 The estimated cost for a 35 kV line for the Minto Spur is \$3.83 million at in-service, as
21 shown at page 13 of the PPA application. This is based on the following:

22

- 23 • 27 km at \$85,000/km = \$2.295 million
- 24 • 350m of river crossing at \$900/m additional cost = \$0.315 million
- 25 • Substations at \$500,000
- 26 • Construction cost in 2005\$ = \$3.110 million

27

28 Plus 10% for design and licencing totals \$3.421 million.

29

30 Plus three years of inflation totaling 7.7%, and interest during construction assumed at
31 4% of total cost (only those costs outstanding over the end of a year attract IDC).

32

33 Total in-service cost of \$3.83 million.

34

35 The estimate above was developed in-house based on YEC experience, and after
36 consultation with third parties including line designers and YEC's resource planning
37 advisors.

1 **REFERENCE: PPA**

2

3 **PREAMBLE:**

4

5 Costs have been incurred by both parties in negotiating the PPA.

6

7 **QUESTION:**

8

- 9 a) Please detail the costs incurred by YEC to negotiate the PPA.
- 10 b) Please detail where these costs have been allocated or charged.
- 11 c) Please indicate if YEC or YDC have paid for any of the costs incurred by Minto
12 Explorations in negotiating the PPA.

13

14 **ANSWER:**

15

16 (a) and (b)

17

18 As of the end of February 2007 YEC has spent approximately \$400,000 on negotiations
19 for the PPA. Costs are still being incurred for such things as due diligence. Detailed cost
20 breakdowns cannot be provided at this time.

21

22 (c)

23

24 YEC and YDC have not paid Minto Explorations negotiation costs for the PPA.

1 **REFERENCE: Section 4.1.2 (Page 7) of the Application**

2

3 **PREAMBLE:**

4

5 YEC states "The Peak Shaving Rate Option benefits YEC by lowering the need to plan
6 for running peaking diesels".

7

8 **QUESTION:**

9

10 a) Please explain how this statement fits into the LOLE planning criteria included in
11 the YUB's Recommendations.

12 b) Please explain how this statement fits into the N-1 planning criteria included in
13 the YUB's Recommendations.

14

15 **ANSWER:**

16

17 (a) and (b)

18

19 The reference does not relate to planning criteria. It relates to the operating requirement
20 in winter to run diesels to meet peak loads. Peak shaving as proposed is a DSM
21 measure to help avoid the need for diesel fuel.

22

23 It does not relate to capacity planning and capital investment which are the basic
24 aspects of the LOLE and N-1 criteria.

25

26 Peak shaving at the Minto Mine could contribute to reducing peak winter load
27 requirements on WAF if and when sufficient additional new mine load is added to the
28 WAF system (see Resource Plan).

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MINTO MINE PPA APPLICATION**

**YUKON UTILITIES BOARD
(YUB)**

1 **REFERENCE: Section 2.0 Overview of the PPA and Requested Approvals**

2
3 Section 3.1 (a) of the PPA provides that prior to proceeding with and completing the
4 Transmission Project under that Agreement, on or before April 30, 2007 the YUB will
5 have approved the PPA, including, without limitation, the following provisions set out
6 under 3.1 (a) (i) to (vii):

7
8 **QUESTION:**

9
10 1. YEC does not expect to provide grid service to Minto before the start of Q3,
11 2008. Why is approval of the rates as described in the remainder of 2.0 and as
12 further described in Section 4.1 of the Application, Attachment A (Cost of
13 Service) of the Application, and Schedule C of the PPA required so far in
14 advance of the service?

15
16 **ANSWER:**

17
18 The PPA was negotiated in order to take advantage of an opportunity to sell surplus
19 power at firm rates during the limited life of the Minto Mine (with the added benefit of
20 significantly reducing greenhouse emissions that would have existed but for the Project),
21 and in order to ensure that YEC received a significant financial commitment from Minto
22 towards Stage One of the Carmacks-Stewart Transmission Project.

23
24 The PPA sets out the respective rights and obligations of YEC and Minto. A fundamental
25 requirement in order for the Parties to proceed with the PPA, was to have some certainty
26 with regard to the nature of, and basic levels for, the firm rates that would apply to Minto
27 at the Mine in at least 2008, on the understanding that the Parties would then also have
28 a reasonable basis to assess the firm rates likely to apply thereafter to the Mine.

29
30 The PPA, as negotiated, obligates each Party to future commitments. For example, YEC
31 is obligated to proceed with the Transmission Project based on Minto providing the YEC
32 Security as continuing security for the Capital Contribution plus accrued interest, the
33 minimum take-or-pay obligations and various other obligations. To conclude the PPA
34 with these respective obligations, clarity was required today as to the Firm Mine Rate to
35 be charged to the Mine based on Yukon costs and regulatory principles and methods
36 adopted in Yukon. Section 3.5 of the PPA acknowledges that, following approval of the
37 PPA, the Firm Mine rate may be amended by the YUB from time to time after 2008.

1 In this regard, Minto specifically required of YEC that the parties negotiate an industrial
2 rate for 2008 (the year when interconnection is expected) which would be acceptable to
3 Minto (and consistent with cost of service principles in the Yukon) and that could be
4 presented for approval to the YUB. Without agreeing to such an approach (and without
5 having the approval of the YUB to the rate negotiated), Minto was not willing to make
6 such a commitment or agree to interconnect the Mine to the grid.

7

8 Without the PPA, YEC is also not prepared to proceed with construction of the
9 Transmission Project.

1 **REFERENCE: Section 1.0 Introduction**

2
3 When it has been completed, the Transmission Project will enable Yukon Energy to
4 deliver surplus hydroelectricity from the Whitehorse-Aishihik-Faro (WAF) grid to the
5 mine, thereby displacing on-site diesel generation which Minto will be relying upon when
6 the Mine begin commercial operations in 2007.

7
8 **QUESTION:**

9
10 1. Provide a 20-year forecast showing surplus hydro generation being utilized.
11 State all assumptions.
12 2. If the assumptions include the construction of a third turbine at Aishihik, does
13 YEC believe the hydro is surplus if new hydro facilities have to be created?

14
15 **ANSWER:**

16
17 **(1) and (2)**

18
19 Attachment B to the Application provides 20-year forecasts showing surplus hydro
20 generation being utilized (see line 17 in Tables B-2 and B-3 and line 16 in Tables B-4
21 through B-8), and states all relevant assumptions. The forecasts include scenarios with
22 and without the Stage One CS/MS Project, as well as with and without Aishihik 3rd
23 Turbine, and address the following two potential load forecast levels for the Minto Mine:

24
25 • Surplus hydro without the Minto Mine (Base Case) extends until 2020.
26 • Surplus hydro from existing WAF facilities is fully utilized with the Minto Mine by
27 2013 or 2015 (depending on Mine loads assumed), but re-emerges after closure
28 of the Minto Mine under these forecasts (closure assumed in Attachment B in
29 2015 or 2016, depending on assumed mill processing rates).

30
31 As reviewed in the 20-Year Resource Plan, the construction of a third turbine at Aishihik
32 is driven by economic reasons, namely to offset future diesel generation that is expected
33 to increase under the Base Case load forecast (without any new mines). The Minto Mine
34 load accelerates the timing of these benefits (see Attachment B).

1 **REFERENCE: Application, page 2**

2
3 ...with the first stage to include the 138 kV CS development from Carmacks to Pelly
4 Crossing (Stage "1") and the second stage to proceed thereafter with the balance of the
5 CS transmission when conditions will permit its development without adverse impact on
6 ratepayers;

7
8 **QUESTION:**

9
10 1. Describe what YEC means by adverse impact? Can YEC anticipate a scenario
11 where rates to ratepayers will decrease from current levels?

12
13 **ANSWER:**

14
15 "Adverse impact" means an increase in net costs to YEC or ratepayers beyond what
16 would otherwise be required without the project (see response in Resource Plan hearing
17 to YUB-YEC-2-21(a)).

18
19 The Application demonstrates how the PPA works to prevent such "adverse impacts"
20 from the Stage One CS development, and in fact to provide overall ratepayer benefits
21 (see response to YUB-YEC-1-4). The comment above is saying that YEC's intent is to
22 proceed with Stage Two of the CS development "when conditions will permit its
23 development without adverse impact on ratepayers." Obviously, YEC will also look as
24 well for opportunities to capture additional ratepayer benefits from Stage Two
25 development.

26
27 YEC does not anticipate scenarios with the PPA where rates to ratepayers will decrease
28 in the near term from "current levels". This expectation reflects the approach adopted in
29 the PPA to manage ratepayer risks as well as the long time period since the last full
30 GRA for both utilities and the last full review of all rates in 1996/97, and other related
31 considerations,

32
33 However, as noted YEC does anticipate ratepayer benefits from the PPA and Stage One
34 CS/MA Project development. For example, through operation of the Mine Net Revenue
35 Account the benefits which will arise from the PPA could be used to offset system costs
36 which would otherwise have to be included in rates charged to ratepayers had

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1 interconnection of the Minto Mine not occurred.¹ For more on the Mine Net Revenue
2 Account see YEC-YUB-1-15.

¹ Table C-1 in Attachment C to the Application provides an example where the Mine Net Revenue account grows to \$10.68 million by the end of the assumed Mine life, i.e., an amount more than sufficient to offset the then outstanding balance of the CS Stage One capital costs (\$8.34 million), thereby leaving over \$2.3 million of funds that could be used to offset system costs which would otherwise have to be included in rates charged to ratepayers had interconnection of the Minto Mine not occurred,

1 **REFERENCE: Application, page 2**

2
3 Timely completion of the Transmission Project prior to the end of 2008 will enable YEC
4 to supply electricity to Minto, displacing use of the Mine Diesel and securing economic
5 benefits for both Minto and Yukon electricity ratepayers.

6
7 **QUESTION:**

8
9 1. Describe the economic benefits to Yukon ratepayers. Describe the economic
10 benefits to Minto.

11
12 **ANSWER:**

13
14 Economic benefits to Yukon ratepayers due to the timely completion of the Transmission
15 Project prior to the end of 2008 relate primarily to improved use, as soon as is feasible,
16 of existing WAF surplus hydro generation for sales to the Minto Mine as well as for
17 displacing use of utility diesel generation at Pelly Crossing. Attachment C to the
18 Application indicates that incremental Mine Net Revenue benefits for ratepayers are
19 expected to approximate \$2 million or more in the first full year of YEC service (after
20 providing for Incremental YEC Costs). The Mine Net Revenue Account sets aside such
21 net benefits to offset potential future cost risks and (as provided for in the PPA) at a
22 future time to offset the regulated YEC rate base or such other capital-related purposes
23 as approved by the Board.

24
25 Timely completion of the Project will yield material ratepayer benefits equal to at least
26 \$250,000 per month of avoided delay (reflecting expected minimum Minto payments),
27 ignoring additional impacts that arise under the PPA if delay extends beyond September
28 30, 2009.(See UCG-YEC-2-1 and YUB-YEC-1-30). Completion of the Stage One CS
29 Project will also bring Pelly Crossing ratepayers into the hydro rate zone, thereby
30 reducing second block energy rates (see Application, section 5.1 at page 12), and
31 complete the development of long-term infrastructure assets that enhance grid power
32 access into this region and facilitate future completion of the full CS Project to connect
33 the WAF and MD grids (with the related overall Yukon power system efficiency, flexibility
34 and reliability benefits related to such interconnection).

35

1 The YEC Project Proposal Submission to YESAB sets out other socio-economic benefits
2 associated with the project (see Exhibits B-13 and B-16 filed in the Resource Plan
3 Hearing).

4

5 The economic benefits to Minto from timely completion of the Transmission Project prior
6 to the end of 2008 relate to material reductions in diesel generation costs as soon as is
7 feasible. For example, based on Attachment D to the Application, Minto cash savings
8 are estimated at \$3.33 million per year for the first 4 years of YEC service, and \$1.17
9 million per year for the next 3 years (after which time all Capital Cost Contribution
10 payments are expected to have been made, and cost savings would then rise to \$4.5
11 million per year).

1 **REFERENCE: Application, page 3 Low Grade Ore Processing Secondary**
2 **Energy Rate**

3

4 **QUESTION:**

5

- 6 1. Describe how the use of secondary energy to process low grade ore will be
7 measured.
- 8 2. Will the use of this secondary energy displace other secondary energy users on
9 the WAF grid?
- 10 3. Will a similar rate be offered to other potential industrial customers? Commercial
11 customers?

12

13 **ANSWER:**

14

15 **(1)**

16

17 Please see response to YUB-YEC-1-11(2).

18

19 **(2)**

20

21 Current secondary energy users on the WAF grid are protected by the PPA as regards
22 the Low Grad Ore Processing Secondary Energy Rate. Use of the Low Grade Ore
23 Processing Secondary Energy will not displace other secondary energy users of the
24 WAF grid, i.e., see condition (3) at page 2 of Schedule D to PPA.

25

26 **(3)**

27

28 This rate has been specifically designed for the Minto Mine, and potentially for mine sites
29 engaged primarily in copper production for processing ore with less than 1% copper
30 content. No similar rate is being contemplated at this time for any other customers. Any
31 such rate would only be relevant so long as surplus hydro energy is available after
32 supplying other secondary energy users.

1 **REFERENCE: Application, page 3 Mine Net Revenue Account**

2 **QUESTION:**

3

4

5 1. Would Yukon ratepayers receive direct benefits if the account was not set up and
6 the funds were used to lower rates for all rate classes?

7 2. Could the funds become part of the revenue requirement calculations and if, in
8 future, YEC required funds for future projects, YEC could present a business
9 case and seek regulatory approval?

10 **ANSWER:**

11 (1)

12

13 With or without the Mine Net Revenue Account the PPA and the Stage One CS/MS
14 Project are expected to provide positive benefits to ratepayers. The purpose of the Mine
15 Net Revenue Account is to protect ratepayers from rate instability and to deliver to
16 ratepayers the long-term infrastructure benefits that can be realized from this
17 development. Section 3.6 specifies that ratepayer benefits with this account can occur
18 as soon as accrued amounts are sufficient to offset CS Project Stage One
19 Undepreciated Capital Costs; further options to pass benefits to ratepayers occur in any
20 event when the YEC Security is discharged, as well as when the Mine ceases
21 commercial operations (when the account will be terminated and all benefits will flow to
22 ratepayers).

23

24

25 Without the Mine Net Revenue Account, positive incremental net revenues from the
26 Mine and the Stage One CS/MS Project could be used to lower rates initially for all rate
27 classes. Yukon ratepayers would thereby receive immediate direct benefits so long as
28 such positive incremental net revenues continued.

29

30

31 Although the Mine Net Revenue Account does prevent immediate rate decreases it also
32 protects against future rate increases thereafter due to the Project or the Mine. If the
33 Mine Net Revenue Account was not established, the initial rate decreases would need to
34 be followed by ongoing rate increases for all rate classes simply to match steadily
35 shrinking annual net benefits related to the declining hydro surplus. The result might

1 well be seen as ongoing adverse impacts on Yukon ratepayers, both from new rate
2 instability and from rate increases as, and when, they occurred.¹

3

4 Attachment C to the Application can be used to demonstrate these observations.

5

6 Attachment C provides forecasts of annual Mine Net Revenue incremental annual
7 amounts (column 13) starting at \$1.95 to \$2.7 million positive in year 1 of full YEC
8 service and falling to zero or negative \$0.3 million in the final year of Mine operation, i.e.,
9 the amount of positive benefits without the Mine Net Revenue Account would fall each
10 year, and would become negative near, or after, the end of the Mine life. At the end of
11 the Mine life, without the Mine Net Revenue Account, all ongoing annual costs still
12 remaining for the CS Project facilities (e.g., such annual charges related to about \$8.5
13 million in undepreciated capital costs) would also need to be charged to the remaining
14 ratepayers through increased rates.

15

16 Further (and not shown in Attachment C), without the Mine Net Revenue Account any
17 realized risks related to temporary or premature Mine shutdowns or closures, CS capital
18 cost escalations beyond those already assumed, or premature reductions in surplus
19 hydro generation due to other new mine loads or other higher-than-expected WAF load
20 increases would all have a direct impact on reducing the initial direct benefits suggested
21 by Attachment C or on increasing the ongoing rate increases required from other Yukon
22 ratepayers as such direct benefits are reduced.

23

24 In summary, the Mine Net Revenue Account is a deferral account that provides rate
25 stability for Yukon ratepayers during the Mine life while ensuring that in the future Yukon
26 ratepayers are eligible to receive any positive net benefits that do in fact remain as a
27 result of the PPA and the Stage One CS/MS Project, i.e., with or without the Mine Net
28 Revenue Account, Yukon ratepayers will ultimately receive all of the direct net benefits
29 that arise from these activities.

30

31 For more on the Mine Net Revenue Account see YUB-YEC-1-15.

32

33 (2)

34

35 YEC is not clear what exactly is being assumed in this question.

¹ Normally such direct benefits or adverse effects would be assumed to occur for all Yukon ratepayers under such assumptions; however, under the RSF in place in recent years, most residential and general service ratepayers would see no change to bills as a result of any such rate reductions or increases.

1 If the question assumes a scenario without the Mine Net Revenue Account, the above
2 comments indicate that under this approach Mine and Project impacts would flow
3 directly each year to YEC's revenue requirements. Positive or negative net incremental
4 impacts each year (as the case may be) from the Mine and the CS/MS Project would
5 then directly impact rates positively or adversely from year to year (subject to the timing
6 of rate reviews). Rate instability and risk were noted above under this approach.
7 Further, this approach would not allow any positive "net incremental revenue" funds to
8 be set aside for future projects, i.e., each new project's costs and benefits would then
9 also flow directly through to revenue requirements and be subject to ongoing YUB
10 review as to related ongoing rate changes.

11

12 Under the PPA as concluded, and for which Board approval is being sought for the Mine
13 Net Revenue Account as set out in Section 3.6 of the PPA, Mine Net Revenue funds
14 cannot become part of the ongoing revenue requirement calculations as would be
15 applicable for setting rates for other ratepayers (except as otherwise provided for in
16 Section 3.6 after the Commercial Operation Cessation Date). The account does
17 provide, however, for its use to fund annual Incremental YEC Costs that the Board
18 approves to include in revenue requirements of YEC for the CS Project and potentially
19 other future generation projects.

20

21 See also the response to YUB-YEC-1-15.

1 **REFERENCE:** Application, page 3 Capital Cost Contribution

2

3 **QUESTION:**

4

5 1. How was the total capital cost contribution determined? How does this
6 determination relate to YEC's Ts and Cs? Would a similar process be available
7 to other industrial customers? Commercial customers? What principles were
8 applied in determining the capital cost contribution?

9

10 **ANSWER:**

11

12 The Capital Cost Contribution is defined in the PPA as the sum of:

13

14 • **Mine Spur:** all actual YEC Capital Costs for the Mine Spur (ultimately to be
15 determined based on actual costs incurred, including interest during construction
16 at a fixed Cost of Capital of 7.5% per annum); and

17 • **CS Project:** a fixed \$7.2 million contribution towards YEC's Capital Costs for the
18 CS Project.

19

20 The **Mine Spur contribution** reflects the assumption that, in essence, these specific
21 transmission facilities are being planned and built only to serve one customer (i.e., the
22 Minto Mine), and are generally expected to be decommissioned and removed after the
23 Mine is shut down. Based on this assumption, the principle being applied is that, when
24 only one customer is planned to be served by specific transmission facilities, that one
25 customer generally should pay the full actual cost of the facilities so required.¹

26

27 The **CS Project contribution** reflects two realities:

28

29 • **Long-term use planned for CS facilities:** the CS Project facilities as planned
30 are being built as long-term ongoing infrastructure for the benefit of all Yukon
31 ratepayers, as the first stage of the project to connect the WAF and MD grids,
32 and not solely to serve only one customer (the Minto Mine); to this end, these
33 facilities as planned will not be decommissioned or shut down when the Mine is
34 shut down; and

¹ YEC notes that in reality the Mine Spur substation and line facilities on the east side of the Yukon River are likely to provide service to the local Minto Landing community and others in this area, and as such are likely to be retained rather than decommissioned after closure of the Mine. Nonetheless, Minto has agreed in the PPA to pay the full capital cost for the Mine Spur.

1 • **Due to its diesel generation cost savings related to the PPA, Minto can**
2 **afford to pay for the capital costs otherwise needed for it to connect the**
3 **Mine to the grid:** material cost saving benefits are still available to the Minto
4 Mine from Grid Electricity service even if the Carmacks to Minto Landing 138 kV
5 portion of Stage One was not built and the Mine was required to pay 100% of the
6 cost estimated for the basic additional facilities (i.e., for additional 35 kV line
7 facilities between Carmacks and Minto Landing) to connect the Mine with the
8 WAF grid.

9

10 Based on these realities, the principle being applied by YEC is to secure from the Mine
11 the maximum reasonable customer capital cost contribution toward the CS Project
12 facilities' capital costs, based on the notional portion of the Stage One CS Project
13 facilities otherwise required by the Mine to secure grid service (i.e., reasonable costs
14 estimated for the line segment and voltage level that the Mine would otherwise require to
15 receive Grid Electricity without the CS Project as currently planned at 138 kV).

16

17 With regard to the determination of the specific \$7.2 million amount for the CS Project
18 contribution, as explained in section 5.1.1 of the Application (footnote 17), the \$7.2
19 million represents the mid-point in-service capital cost estimate for a 35 kV line over the
20 Carmacks-Minto Landing segment of the CS Project, i.e., the cost of the additional
21 transmission line segment (beyond the Mine Spur facilities) and voltage level that the
22 Mine would otherwise require to receive Grid Electricity (from the WAF grid) without the
23 CS Project. As a condition for agreeing on this amount, the \$7.2 million is a fixed amount
24 under the PPA and not subject to any adjustment based on YEC's final actual capital
25 costs for the CS Project facilities.

26

27 As regards "YEC's Ts and Cs", YEC assumes that the question is addressing terms and
28 conditions under the Electric Service Regulations (ESRs) applicable to YEC as regards
29 a maximum utility capital investment in new customer connections. Such terms and
30 conditions, as set out in Part III of Schedule B of the ESRs for a General Service
31 customer with an estimated life less than 25 years, specify as follows:

32

33 "If the Annual Cost² of serving a customer is higher than the revenue expected
34 to be received from such service, then the Maximum Company Investment [by

² "Annual Cost" is defined in the ESRs as "the estimated cost of generating and transmitting electric energy to the Customer, operating and maintaining the facilities constructed to serve the Customer and the fixed charges, including return, income tax and depreciation, on the cost of facilities constructed to serve the Customers."

1 YEC] shall be the Cost³ of the extension less the present value of the annual
2 amounts over the expected life of the service by which the Annual Cost is
3 expected to exceed the revenue.”

4

5 In the context of the above ESR terms and conditions, the PPA in effect assigns to Minto
6 100% of the estimated costs of the facilities needed to be constructed to serve the Mine
7 in the event that all such facilities were to be built solely to serve the Mine at 35 kV from
8 Carmacks to the Mine, i.e., YEC is not proposing any utility investment be planned
9 toward the expected costs for such an extension.

10

11 In response to the question, even though the PPA is not proposing to proceed on this
12 basis, the following can be noted with regard to the implications of YEC proceeding in
13 this instance based only on the applicable ESR terms and conditions:

14

- 15 • Based on annual Mine Net Revenue amounts as estimated in Table C-1
16 (Attachment C of the Application), the Annual Cost of serving the Minto Mine is
17 not currently expected in most years to exceed the annual revenues from the
18 Mine.
- 19 • Accordingly, the ESR terms and conditions would support a maximum YEC
20 investment in these same facilities (i.e., those service extension facilities needed
21 solely to serve the Mine), based on the present value of Mine Net Revenue
22 amounts in Table C-1, approximating at least \$7 million⁴.
- 23 • The net result of such an investment approach by YEC would be to develop
24 facilities only to serve the Mine, on the understanding that all of these facilities
25 (including the 35 kV line from Carmacks to Minto Landing) would be removed
26 when the Mine shut down. (To the extent that facilities were to be built to serve
27 ongoing utility interests, beyond an extension to this one customer, the ESR
28 terms noted here would not apply).
- 29 • The net benefits from use of the surplus WAF hydro generation would be
30 invested solely in service extension to the Mine during its defined life, i.e., YEC

³ “Cost” is defined in the ESRs as “the estimated cost of materials, labour, equipment, expenses, and any other direct costs incurred by the Company [YEC] in extending Service to a Point of Delivery.”

⁴ Estimated in late 2008 dollars (in-service costs) and assumes a discount rate at 7.5% to reflect estimates for YEC weighted average cost of capital. Annual Cost as defined in the ESR would be less than Incremental YEC Costs as assumed in Table C-1, and thus the ESRs would likely support a somewhat higher maximum utility investment than the amount estimated here. In the hearing on YEC 2005 Required Revenues and Related Matters the normal allowed maximum utility investment under the ESRs with regard to a normal General Service customer was increased by the Board to \$400 per kW (see response in that hearing to YUB-YEC-1-18 for example calculations provided to support that change, based on surplus hydro conditions).

1 would in effect at a minimum (e.g., assuming CS Project facilities built to serve
2 more than the Mine loads) pay all costs for the Mine Spur.

3

4 **The PPA reflects an approach with regard to the Capital Cost Contribution that will**
5 **facilitate the use of near-term surplus hydro generation net revenues from the**
6 **Mine for investment and development of long-term infrastructure (i.e., the 138 kV**
7 **CS Project facilities) that will benefit all Yukon ratepayers, rather than in**
8 **connection facilities needed only to serve the Mine.** Accordingly, the Capital Cost
9 Contribution by Minto materially exceeds the minimums allowed by the ESRs, and the
10 provisions of the Mine Net Revenue Account are also applied to provide further support
11 and protection for the long-term utility investment in the Stage One CS Project facilities.

12

13 As reviewed in section 5.3 of the Application, Section 5.7 of the PPA provides that New
14 Industrial Customers, as defined in the PPA (such customers must receive Grid
15 Electricity from the Transmission Project or the CS Project), will be required by YEC to
16 pay a Capital Cost Contribution for their appropriate share of Capital Costs of the CS
17 Project and any spur lines. Beyond this specific situation, YEC has not considered how
18 these principles and the PPA approach might be applied to other major industrial
19 customers (i.e., loads of at least 1 MW) or commercial customers.

1 **REFERENCE: Application, page 3 YEC Purchase of Diesel Units**

2
3 **QUESTION:**

4

5 1. The Board would like YEC to reference which part(s) of YEC's 20-Year Resource
6 Plan contained the acquisition of these additional diesel units. Were these units
7 referenced as opportunity projects? Were the units referenced as capacity
8 related projects?

9 2. Provide 20-Year forecast for each of these units for each year showing expected
10 operating hours and MW.hs of energy produced. Where specifically does YEC
11 plan to deploy these diesel units?

12
13 **ANSWER:**

14
15 **(1)**

16

17 At the time that the initial 20-Year Resource Plan was prepared the potential acquisition
18 of the Diesel Units was not considered; however, prior to the Resource Plan Hearing,
19 YEC filed interrogatory responses (YUB-YEC-2-10(f)) which identified the potential
20 option of purchasing four high speed diesel units (6.4 MW) from Minto at the Mine site as
21 part of the PPA negotiations. During the hearing Yukon Energy clarified the basis under
22 which it may, as part of the PPA, acquire control of these diesel units that will be surplus
23 to the Mine's needs after YEC starts delivery of grid power.¹

24

25 Overall, these units were referenced in the Resource Plan hearing primarily as a near
26 term contingency option to facilitate meeting WAF capacity planning needs in a cost
27 effective and timely manner. The price for these units under the PPA (i.e. not exceeding
28 \$350 per kW) is very competitive with costs estimated in the Resource Plan Hearing for
29 the Mirrlees Life Extension Project.²

30

31 In the event that the PPA is approved and the CS/MS Project proceeds, YEC will
32 reassess the timing of the Mirrlees Life Extension plans in the context of having the Mine

¹ YEC clarified that any such arrangement would involve YEC control and ownership of the units, and not an IPP type of arrangement. See discussion with Mr. Pinard (transcript p. 96, line 1 to p. 97, line 22) and with Mr. Buonaguro (transcript p. 265, line 24 to p. 269, line 7). Evidence presented during the hearing reviewed potential benefits of mine site diesel generation at times when mine loads require use of diesel generation (e.g., reduced line losses, cost savings due to reduced diesel generation requirements, less pollution and less greenhouse gas emissions).

² The Update in that hearing (Exhibit B-16) noted the cost for rehabilitation of the Faro Mirrlees unit as being expected to be in the range of the Whitehorse Mirrlees Life Extension capacity noted in the Supplemental Materials Tab 1 at about \$457 per kW.

1 Site diesel capacity available in the near term on the WAF system. Subject to the terms
2 of the PPA, these Diesel Units are portable and capable of being redeployed anywhere
3 on either the WAF or Mayo Dawson grids, or being sold as used surplus diesels in the
4 same manner as Minto has planned to do if YEC does not acquire them.

5

6 As noted in section 4.2.2 of the Application, these Diesel Units provide benefits to the
7 WAF system in addition to those noted above, including:

8

- 9 • The purchase payment arrangements for this asset enhance YEC's security with
10 regard to the Minto obligations to pay the Mine Spur Capital Cost Contribution.
- 11 • The units provide added security to YEC and Minto as regards reliable supply at
12 the Mine.
- 13 • When WAF diesel operation is required, YEC operation of at least two of the
14 Diesel Units at the Mine Site (especially for baseload operation) is expected to be
15 cost effective (due to the minimization of line losses and related additional diesel
16 generation requirements).³
- 17 • In the near term these units provide cost effective contingency protection until
18 such time as other potential major mine loads (Carmacks Copper) as well as
19 capacity supply options are better clarified.

20

21 (2)

22

23 YEC has provided forecasts of WAF peaking and baseload diesel generation
24 requirements by year during the expected Mine life (see Attachment B to the
25 Application). However, YEC has not developed a 20-Year forecast for each unit for each
26 year showing expected operating hours and MWh of energy produced.

27

28 Based on the currently available information YEC provides the following comments in
29 response to this question:

30

- 31 • **Retain Units at the Mine Site:** If YEC acquires the Diesel Units under the PPA,
32 these units are expected to be deployed at the Minto Mine site so long as the
33 Mine is operating and the units are owned by YEC.
 - 34 – Under the PPA, all four units must remain at the Mine Site during the first two
35 years of YEC service, and thereafter at least two units are to remain at the

³ Between two and three of the Diesel Units at the Mine Site would rank next to the top of the WAF diesel generation stacking order, reflecting their capability to supply expected Mine load levels at efficient fuel operation levels.

Mine Site until the earlier of the eighth Annual Payment date and the discharge of the YEC Security (which requires that Minto has fully met its related obligations).

- In addition to providing cost-effective WAF capacity benefits during the Mine’s life⁴, as noted in the Application between two and three of the units at the Mine Site would rank next to the top of the WAF diesel generation stacking order, reflecting their capability to supply Mine load levels (when diesel generation is required on WAF) at efficient fuel operation levels (taking into account the diesels expected 3.7 kW.h/litre fuel efficiency plus the line loss credit when serving Mine loads).
- As shown in Attachment B, towards the end of the Mine life the potential value and use increases for at least two of the units to assist meeting WAF diesel generation requirements in a cost effective manner when the Mine is operating.
- In the event that the Mine closes and/or YEC determines prior to that time that one or more of the Diesel Units can be removed from the Mine Site (i.e., the PPA conditions so allow and the specific units serve no useful role in meeting needs or providing for contingencies), YEC would currently expect to sell such surplus units to others.

⁴ Under YEC's capacity planning criteria the Mine's load is considered in LOLE assessment but not in the N-1 assessment, and accordingly (absent other new Mine loads) it is not expected that the Minto Mine will increase effective WAF capacity planning requirements. Nonetheless, as noted, these Diesel Units offer a cost-competitive option to meet WAF peak winter generation capacity requirements at a time when YEC is actively examining options to enhance this WAF capacity.

⁵ In addition to at least two of the Mine Diesel Units (3.2 MW) expected to be stacked next to the top of the order, the 3.3 MW Caterpillar unit located at Whitehorse is expected to be the first such unit in the stacking order and the 3.0 MW Caterpillar unit in Faro is expected to be the fourth such unit in the stacking order.

⁶ See Attachment B to the Application for GW.h forecasts of WAF diesel generation. After the Mine stops operation, surplus hydro generation conditions are forecast to resume for a few years, but WAF baseload diesel generation is expected to recur starting in 2021 under Base Case without any mine loads.

1 dispatch beyond these four units under any normal conditions with the Minto
2 Mine load and no other new mines on the WAF grid.

3

4 • **Non-Stacking Order Operation when WAF Diesel use is not material:** Under
5 conditions with the Stage One Carmacks-Stewart line in service, where diesel is
6 not required for baseload generation, the detailed stacking order has somewhat
7 less relevance than under loads such as when the Faro mine was operating and
8 major diesel baseload generation was required (up to 100 GW.h per year). Under
9 the conditions forecast with the Minto Mine, where WAF diesel is only used for
10 peaking at relatively infrequent times during the year during most years when
11 diesel generation is forecast to be needed, other factors outside of pure
12 economic stacking order become relevant to determining which unit is
13 dispatched. For example, pursuant to the manufacturer's recommendations and
14 good utility practice, YEC attempts to ensure each diesel unit is run for some
15 amount of time ("exercised") on a routine basis. During winter peak conditions,
16 the first unit to be dispatched will therefore in many cases be the unit that is next
17 required to be exercised, regardless of the stacking order. In these cases, the
18 impact of the CS/MS Project on diesel use is basically zero (the diesel generation
19 would have been run in any event for other unit maintenance requirements).
20 Other considerations will also be brought into the dispatch decision; for example,
21 there is a benefit to helping "turn over" YEC's fuel inventories to ensure stored
22 fuel is not stale, which will at times emphasize using generation at Faro ahead of
23 Whitehorse. Consequently, under forecast conditions for many years, even
24 though the Whitehorse Caterpillar unit is the first in the "stacking order", there are
25 many conditions when other units (including units outside of Whitehorse) will be
26 dispatched ahead of this unit.

27

28 • **Contingency Conditions when WAF diesel use may increase significantly:**
29 Aside from emergency conditions, WAF diesel use could increase materially with
30 the Minto Mine under conditions of low water flows (e.g., forecasts in Attachment
31 B assume normal water flows) and/or if WAF loads are materially increased (e.g.,
32 the addition of another mine load). Under such conditions the operation of the
33 Diesel Units at the Mine Site would be important for fuel cost savings on WAF.

34

35 • **WAF planning considerations:** In the event that the PPA is approved and the
36 CS/MS Project proceeds, YEC will be able to utilize the opportunities provided by
37 the new mine load and the Diesel Units to re-assess WAF generation and

- 1 transmission options, including timing for the Aishihik 3rd Turbine, and potentially
- 2 also re-consideration of the Aishihik Twinning option⁷.

⁷ Aside from the lumpiness and cost of the Aishihik Twinning option, it also was noted to be penalized by the near term need for added WAF winter peak generation capacity, the lack of near term WAF load, and timing for proceeding with the Aishihik 3rd Turbine. Higher near term WAF loads associated with adding new mine loads and development of the Aishihik 3rd turbine may enhance prospects for the Aishihik Twinning project and the ability to relocate or sell the portable Minto Mine diesels would also serve to allow the resulting Aishihik project capacity to be more effectively used in the near term.

1 **REFERENCE: Application, page 4 Schedule 1**

2

3 **QUESTION:**

4

5 1. Will the Capital Cost Contribution be increased if the costs for Stage 1 of the CS
6 project fall between the mid point costs and the high costs? If the costs for stage
7 1 of the project exceed the high costs will the contribution by Minto be
8 recalculated? What will the effect be on rates?

9

10 **ANSWER:**

11

12 No, the Capital Cost Contribution will not be increased if the costs for Stage One of the
13 CS Project fall between the mid point costs and the high costs. Similarly, the contribution
14 by Minto will not be recalculated if the costs for Stage One of the CS Project exceed the
15 high costs. The rationale and principles for the Capital Cost Contribution related to the
16 CS Project are reviewed in response to YUB-YEC-1-7, and the PPA as ultimately
17 negotiated on this matter does not involve Minto sharing in any risk related to the CS
18 Project capital costs (other than to the extent such cost adjustments lead to adjustments
19 in the Firm Mine Rate approved by the YUB after 2008)¹.

20

21 Under the PPA, during the Minto Mine life the capital costs of the CS Project will be
22 included in the determination of annual Mine Net Revenue in each fiscal year and thus
23 will not flow directly into the determination of rates to other Yukon ratepayers during this
24 period.² The impact on rates of such costs thereafter will depend on the size of the Mine
25 Net Revenue Account at that time and the extent to which other New YEC Industrial
26 Customers have provided additional capital cost contributions to the Stage One CS
27 Project, among other factors.

¹ Consistent with item A(4) classification principles (point 4) and item B(3)(iii) of Schedule E to the PPA, the COSS as estimated for determining cost-of-service and rates for the Major Industrial Customer class in Attachment A to the Application specifically includes classification to energy of 100% of the annual costs for the CS Stage One Project net of capital cost contributions from Minto, YDC and YTG.

² Attachment C provides examples of annual Mine Net Revenue calculations. Incremental YEC Costs as defined in the PPA for this purpose specifically include any depreciation, operating and maintenance expenses and return on rate base in each fiscal year related to the transmission Project (as defined) and the CS Project.

1 **REFERENCE: Application Section 4.0 PPA Rates and Impact on WAF System**

2
3 **QUESTION:**

4

5 1. Provide examples of other jurisdictions where transmission costs are allocated
6 based on an energy-only criterion. Provide COS schedules and revised rate
7 schedules using classification factors for transmission assets based on 60%
8 demand and 40%. Would YEC consider undertaking and providing classification
9 factor studies to determine appropriate classifications of transmission assets?

10 2. Did the 20-Year Resource Plan indicate that Stage 1 of the CS project would not
11 proceed unless there was additional mine load? If yes, then is the driver of the
12 project new load rather than diesel displacement?

13 3. Would YEC be adverse to assigning costs used only by industrial customers to
14 industrial customers and then allocating the remaining costs that are shared by
15 all customers to all customers?

16 4. When was the last complete COS study provided for Yukon ratepayers including
17 updates on classifications factors, line loss studies, reviews of cost assignments
18 to marketing, accounting, administrative and overhead? Given that approval is
19 being asked for new rates, what is the position of YEC in providing more detailed
20 studies to support the cost of service and rate design?

21
22 **ANSWER:**

23
24 **(1)**

25
26 YEC is not currently aware of other jurisdictions where transmission costs are allocated
27 based on an energy-only criterion; typically, in situations where transmission assets are
28 dedicated to delivery of hydro generation, the transmission assets are classified on the
29 same basis as the related hydro generation assets. In the case of Yukon, however, this
30 approach has not been adopted to date for cost of service classification of any
31 transmission assets (i.e., other than Whitehorse-Faro transmission assets specifically
32 assigned to the Faro mine (80% of such costs), transmission assets were classified
33 100% to demand in past YEC/YECL GRAs and Board decisions).

34
35 Schedule YUB-1-10(1)A attached provides the requested adjusted COS schedule from
36 Attachment A (revised Schedule A-1) using classification factors for transmission assets
37 as requested based on 60% demand and 40% (presumed) energy. The overall result is

1 a slightly reduced COS for the Major Industrial class (reduced from 10.00 cents per kWh
2 to 9.86 cents per kWh). Based on this adjusted COS, the Firm Mine Rate yielding 100.2
3 % revenue/cost ratio could be adjusted slightly (Demand Charge at \$16 per month per
4 kVA and Energy Charge at 7.25 cents per kW.h).

5

6 Based on hydro system experience in other jurisdictions, the current surplus hydro
7 generation on WAF and MD systems, the capacity planning criteria adopted by YEC
8 (which currently renders no capacity or demand benefit for the Aishihik-Whitehorse
9 transmission line), and the extent to which Yukon transmission assets are planned and
10 used to displace diesel energy generation, it is not apparent on what basis transmission
11 assets might reasonably be classified 60% to demand as per Schedule YUB-1-10(1)A.
12 Aside from the approach adopted in the Application and Schedule E to the PPA,
13 potential options reflecting Yukon conditions and principles adopted in other hydro
14 jurisdictions might assign all transmission asset costs based on the hydro generation
15 asset classification (86.8% to energy), or the total generation asset classification (67% to
16 energy), or the "Other Hydro" generation classification excluding Whitehorse #4 (60% to
17 energy).

18

19 By way of example of such an alternative classification, Schedule YUB-1-10(1)B
20 attached provides the adjusted COS based on a transmission classification reflecting
21 Yukon "Other Hydro" generation asset classification (60% to energy and 40% to
22 demand). The overall result yields the same COS for the Major Industrial class as
23 provided in Attachment A of the Application at 10.00 cents per kWh. Selection of the
24 other options noted above, involving a higher share of Transmission Costs being
25 classified to energy based on either overall generation asset classification (67% to
26 energy) or all hydro asset classification (86.8% to energy) would yield a higher COS for
27 the Major Industrial class than the 10.00 cents per kW/h estimated in the Application.

28

29 YEC is not planning at this time to undertake classification factor studies to determine
30 appropriate classifications of transmission assets. Such studies have not been carried
31 out in the past in any detail in Yukon, and YEC would need to assess jointly with YECL
32 the scope, costs and potential benefits for any such future studies involving both YEC
33 and YECL transmission assets (as these are assigned to the transmission function in
34 Yukon for COS purposes).

35

36 YEC notes that the transmission classification adopted in the Application reflects
37 principles and methods agreed to by YEC and Minto in Schedule E of the PPA for the

1 purpose of assessing COS assigned to the Major Industrial Customer class. YEC sees
2 no reasonable basis for concern that other ratepayer interests are materially prejudiced
3 by this classification approach. Further, as demonstrated above, the principles and
4 methods adopted in the PPA yield similar outcomes as regards transmission costs
5 assigned to the Major Industrial Customer class as would occur if the transmission
6 assets overall were classified based on Other Hydro generation asset classification.

7

8 **(2)**

9

10 The 20-Year Resource Plan indicated that Stage One of the CS Project would proceed
11 only in the event that new mine load and/or YTG contributions were sufficient to ensure
12 no net cost impacts on Yukon ratepayers. When referencing “no adverse impact on
13 ratepayers” YEC has meant to ensure that the costs of the CS transmission facilities do
14 not increase net costs to YEC or ratepayers beyond what would otherwise be required
15 without this project (see response in Resource Plan hearing to YUB-YEC-2-21(a)).

16

17 The justification for supplying the Minto Mine load is based on displacing Mine Site
18 diesel generation; a similar justification relates to serving the Pelly Crossing load.

19

20 **(3)**

21

22 YEC is not clear what is intended by the question, or the basis in principle for the
23 concepts proposed. It is not clear, for example, specifically what would be considered to
24 be “costs used only by industrial customers” – and without clarity on this point, the
25 question cannot be assessed.

26

27 If a strict view is adopted on this matter, for example, then in the current situation the
28 only such costs eligible to be assigned only to industrial customers likely would be the
29 Mine Spur costs, i.e., all other asset costs appear to be shared with one or more other
30 customer classes. In practical terms, the PPA and the Application assign all Mine Spur
31 capital costs in effect to the industrial class (the Minto Mine); however, in addition the
32 PPA and the Application also in effect assign a further \$7.2 million of CS Project capital
33 costs to the industrial class (the Minto mine). The PPA and the Application in effect
34 classify and allocate the remaining costs that are shared by all customers to all
35 customers (i.e., the industrial class is allocated a share of such costs based on the COS
36 principles and methods in the PPA and the Application).

37

1 (4)

2

3 The last complete COS study was provided for Yukon ratepayers in the 1996/97 GRA
4 filing by YEC and YECL, consolidating revenues and costs for the two utilities on a
5 Yukon wide basis.¹ The last such COS study reviewed many of the key factors including
6 updates on line loss studies; however, many of the key COS factors also were not
7 adjusted from earlier COS filings in 1992 and 1993.

8

9 In the Yukon context, past experience suggests a range of factors to be considered
10 when assessing the cost effectiveness of carrying out more complex COS studies at this
11 time, including a need to consider the scale of the systems, the rate design directives of
12 OIC 1995/90 (as regards rate equalization as well as COS requirements in setting Major
13 Industrial Customer class rates) and the current clear understandings as to residential
14 rates being well below COS at a time when the RSF in addition is providing material
15 added subsidies for most residential customers as well as for commercial customers.

16

17 Given that approval is being asked for specific new firm industrial rates, YEC considers
18 that it has provided a reasonable COS analysis as required for this purpose in the
19 absence of current GRA filings by YEC and YECL on the relevant revenue requirements
20 plus joint YEC/YECL COS studies prepared on a Yukon wide basis using such GRA
21 filings. Further, YEC notes that the COS as provided in Attachment A to the Application
22 focuses solely on information required to determine the Firm Mine Rate for 2008 as
23 provided in Schedule C to the PPA, and that the COS filing is fully adequate to allow the
24 Board to determine that the proposed rate complies with OIC 1995/90 (in that the
25 proposed rate is sufficient to recover reasonably estimated 2008 costs of service for the
26 Major Industrial Customer class as so required by this OIC).

27

28 YEC considers that it would be appropriate to consider the need and justification of
29 providing more detailed studies to support the cost of service and rate design at such
30 time as YEC and YECL both proceed to file GRAs and carry out a new joint COS study
31 for the Board. As noted in the joint YEC/YECL filings on this matter in 2005 (see
32 footnote below), however, the value of such studies in setting rates for most customer
33 classes at this time may be limited given overall requirements that can be determined in
34 any event without resort to such studies. Focusing on the one customer class where
35 COS is fundamental to establishing minimum firm rate requirements, YEC would also

¹ YEC and YECL jointly filed with the Board on August 24, 2005, in response to Board Order 2005-1, the Report on the Most Recent Cost of Service Study. The two utilities on October 27, 2005 also jointly filed a letter addressing comments from intervenors on the Report on the Most Recent Cost of Service Study.

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1 want to consider the potential relevance and need for more detailed studies at that time
2 given the agreed COS principles and methods set out in the PPA.

3

4

Schedule YUB 1-10(1)A

5

Yukon Industrial Costs of Service- - 2008 estimate (\$000)-Adjusted per YUB-YEC-1-10(1)

LOADS	Customers	Energy			Coincident Peak			Minto Non-c Peak kW
		Sales MWh	Losses %	Generation MWh	Sales kW	Losses %	Generation kW	
Industrial								
Minto Mine	1	32,500	12.70%	36,627.5	4,004.0	14.70%	4,592.6	4,400.0
other	0	-	0.00%	-	-	0.00%	-	
sub total		1	32,500	12.700%	36,627.5	4,004.0	14.70%	4,592.6
Other		15,750	292,000	11.81%	326,485	61,947	13.00%	70,000
Total		15,751	324,500	11.90%	363,113	65,951	13.10%	74,593
Industrial Share		0.006%			10.087%			
								% of contract winter peak shaving 91.0%
								6.157%

cost escalation since 97

26.37%

PRODUCTION COSTS

Fixed Costs:

Total Yukon	Demand Costs			Energy Costs			Total Industrial Class Costs	cents/kW.h
	Classify %	Yukon Costs	Industrial Costs	Classify %	Yukon Costs	Industrial Costs		
Fixed Costs:								
Diesel Plant	4,302.8	100%	4,302.8	264.9	0%	-	-	264.9 0.0082
Whitehorse #4	7,824.3	0%	-	-	100%	7,824.3	789.2	789.2 0.0243
Other Hydro	3,845.0	40%	1,538.0	94.7	60%	2,307.0	232.7	327.4 0.0101
Wind	199.4	0%	-	-	100%	199.4	20.1	20.1 0.0006
Sub Total	16,171.5	36%	5,840.8	359.6	64%	10,330.7	1,042.1	1,401.7 0.0431
FTN added cost	544.0				100%	544.0	54.9	54.9 0.0017
Sec Sales Credit	(1,101.0)	0%	-	-	100%	(1,101.0)	(111.1)	(111.1) (0.0034)
Fuel Expenses	4,786.0	0%	-	-	100%	4,786.0	482.8	482.8 0.0149
Wind O&M	91.2	0%	-	-	100%	91.2	9.2	9.2 0.0003
Other Production O&M	5,045.8	50%	2,522.9	155.3	50%	2,522.9	254.5	409.8 0.0126
Risk Insurance	546.7	32%	177.3	10.9	68%	369.3	37.3	48.2 0.0015
Revenue Offsets	(210.8)	33.4%	(70.5)	(4.3)	66.6%	(140.3)	(14.2)	(18.5) (0.0006)
Admin & General	3,824.1	33.4%	1,278.8	78.7	67%	2,545.2	256.7	335.5 0.0103
Total Production Costs	29,697.5	33%	9,749.4	600.3	67%	19,948.1	2,012.2	2,612.4 0.0804

Minto Mine

TRANSMISSION COSTS

Total Transmission Costs	WAF Line Costs			2,813.1	283.8	543.6 7.7%	0.0167
	Faro mine assigned	load share for balance	100.00%				
Specific Line (WAF)	690.9	60%	414.5	25.5	40%	276.4	27.9
Mayo Dawson line	2,630.6	60%	1,578.4	97.2	40%	1,052.2	106.1
Carmacks-Stewart (Stage 1)	924.6	60%	554.7	34.2	40%	369.8	37.3
Other Lines	2,786.8	60%	1,672.1	102.9	40%	1,114.7	112.4
Total Transmission Costs	7,032.9		4,219.7	259.8	2,813.1	283.8	543.6 7.7%

Minto Mine

DISTRIBUTION COSTS

Accounting & Marketing	2,279.8		37.6		37.6	0.0012
Other	9,956.0		-		-	
Total Distribution Costs	12,235.8		37.6		37.6	0.0012
Minto Mine			37.6		37.6	0.0012
other			0		0	-
TOTAL COSTS	48,966.2		860.1	37.6	2,296.0	3,193.6 6.5%
net of new items	46,693		860.1	37.6	-	2,296.0
Minto Mine					2,296.0	3,193.6
						0.0983

6

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Minto Mine PPA Application
YUB-YEC-1-10

1
2

Schedule YUB 1-10(1)B

**Yukon Industrial Costs of Service- - 2008 estimate (\$000)-Adjusted per YUB-YEC-1-10(1)
Transmission Asset Classification Modified to reflect Other Hydro Generation Asset Classification**

LOADS	Customers	Energy			Coincident Peak			Minto Non-c Peak kW
		Sales MWh	Losses %	Generation MWh	Sales kW	Losses %	Generation kW	
Industrial								
Minto Mine	1	32,500	12.70%	36,627.5	4,004.0	14.70%	4,592.6	4,400.0
other	0	-	0.00%	-	-	0.00%	-	
sub total	1	32,500	12.70%	36,627.5	4,004.0	14.70%	4,592.6	
Other	15,750	292,000	11.81%	326,485	61,947	13.00%	70,000	
Total	15,751	324,500	11.90%	363,113	65,951	13.10%	74,593	
Industrial Share	0.006%			10.087%				
								% of contract winter peak shaving 91.0%
								6.157%

cost escalation since 97

26.37%

PRODUCTION COSTS

	Total Yukon	Demand Costs			Energy Costs			Total Industrial Class Costs	cents/ kW.h
		Classify %	Yukon Costs	Industrial Costs	Classify %	Yukon Costs	Industrial Costs		
Fixed Costs:									
Diesel Plant	4,302.8	100%	4,302.8	264.9	0%	-	-	264.9	0.0082
Whitehorse #4	7,824.3	0%	-	-	100%	7,824.3	789.2	789.2	0.0243
Other Hydro	3,845.0	40%	1,538.0	94.7	60%	2,307.0	232.7	327.4	0.0101
Wind	199.4	0%	-	-	100%	199.4	20.1	20.1	0.0006
Sub Total	16,171.5	36%	5,840.8	359.6	64%	10,330.7	1,042.1	1,401.7	0.0431
FTN added cost	544.0				100%	544.0	54.9	54.9	0.0017
Sec Sales Credit	(1,101.0)	0%	-	-	100%	(1,101.0)	(111.1)	(111.1)	(0.0034)
Fuel Expenses	4,786.0	0%	-	-	100%	4,786.0	482.8	482.8	0.0149
Wind O&M	91.2	0%	-	-	100%	91.2	9.2	9.2	0.0003
Other Production O&M	5,045.8	50%	2,522.9	155.3	50%	2,522.9	254.5	409.8	0.0126
Risk Insurance	546.7	32%	177.3	10.9	68%	369.3	37.3	48.2	0.0015
Revenue Offsets	(210.8)	33.4%	(70.5)	(4.3)	66.6%	(140.3)	(14.2)	(18.5)	(0.0006)
Admin & General	3,824.1	33.4%	1,278.8	78.7	67%	2,545.2	256.7	335.5	0.0103
Total Production Costs	29,697.5	33%	9,749.4	600.3	67%	19,948.1	2,012.2	2,612.4	0.0804

Minto Mine

TRANSMISSION COSTS

		WAF Line Costs						
		Faro mine assigned	0.00%	load share for balance	100.00%			
Specific Line (WAF)	690.9							
Mayo Dawson line	2,630.6	40%	276.4	17.0	60%	414.5	41.8	58.8
Carmacks-Stewart (Stage 1)	924.6	40%	1,052.2	64.8	60%	1,578.4	159.2	224.0
Other Lines	2,786.8	40%	369.8	22.8	60%	554.7	56.0	78.7
Total Transmission Costs	7,032.9	40%	1,114.7	68.6	60%	1,672.1	168.7	237.3
						4,219.7	425.6	598.8
								8.5%

Minto Mine

DISTRIBUTION COSTS

Accounting & Marketing	2,279.8				37.6		37.6	0.0012
Other	9,956.0				-		-	
Total Distribution Costs	12,235.8				37.6		37.6	0.0012
Minto Mine								
other								
TOTAL COSTS	48,966.2			773.5	37.6	2,437.8	3,248.9	0.1000
net of new items	46,693			773.5	37.6	-	2,437.8	3,248.9
Minto Mine								

3

1 **REFERENCE: Application, page 8**

2
3 Secondary Energy under this rate is to be used only at a mine site engaged primarily in
4 copper production for processing ore with less than 1% copper content ("Low Grade
5 Ore"), and the customer will provide YEC with auditable reporting and controls as
6 reasonably required by YEC to confirm that this secondary energy has been used only to
7 process Low Grade Ore (any such energy use that is not so confirmed will be charged at
8 the Industrial Primary Rate).

9
10 **QUESTION:**

11
12 1. What does YEC mean by "primarily"? What exclusions would apply?
13 2. Describe the auditable reporting and controls as stated in the above passage.
14 Describe the reporting required by YEC as referenced in the next bullet on page
15 8. Describe how proper use of secondary energy will be measured versus
16 improper use of secondary energy?
17 3. Why will Rate Schedule 35 remain fixed when the rates for other Secondary
18 Sales customers are adjusted on a quarterly basis?

19
20 **ANSWER:**

21
22 (1)

23
24 "Primarily" means a mine where copper is by far the prime source of mineral product
25 value produced.¹

26
27 YEC has designed this rate in response to PPA negotiations with the Minto Mine, and in
28 the absence of any other current potential mine customer discussions. The intent is
29 clearly set out that the rate is to be used only at a mine site engaged primarily
30 ("primarily" as other metals also occur to some degree in the ore) in copper production
31 for processing ore with less than 1% copper content ("Low Grade Ore"). The Low Grade
32 Ore criteria would have no meaning or relevance in the case of a mine site not engaged
33 primarily in copper production, and YEC intends to review this terminology in the event
34 that any other mine emerges that might potentially meet such a criterion in

¹ This is clearly the case for the Minto mine. Based on Sherwood's public releases (August 28, 2006), the current Minto mine plan is expected over the mine life to produce 269 million lbs of copper, 133 thousand oz of gold, and 1.6 million oz of silver. Based on assumed metal prices in this release, copper is expected to account for over 85% of the mine's mineral product value.

1 circumstances where the rate might also be available due to surplus hydro still being
2 available.

3

4 As a practical matter, YEC notes that it is unlikely that surplus hydro would continue to
5 be available for any WAF customers in the event that another major industrial mine were
6 to be serviced concurrently with the Minto Mine. In addition, YEC notes that surplus
7 hydro supplies are expected to gradually disappear in any event on WAF between now
8 and about 2020. Accordingly, YEC has not considered it necessary at this time to focus
9 attention on further refinement of what other mines may be included or excluded under
10 this rate.

11

12 **(2)**

13

14 The referenced paragraph repeats the requirements, as set out in the rate schedule, that
15 the customer will provide YEC with auditable reporting and controls as reasonably
16 required by YEC to confirm that this secondary energy has been used only to process
17 Low Grade Ore, and the provision that any such energy use that is not so confirmed will
18 be charged at the Industrial Primary Rate (i.e., the Firm Mine Rate). At this time Minto
19 has not provided YEC with any specific proposed auditable reporting and control
20 mechanisms beyond its overall plans to stockpile (and monitor) Low Grade Ores as
21 mined at the Mine Site for processing after the high grade ores have been processed.
22 At such time as Minto decides that it wants to pursue use of this rate, the Parties will
23 work together to establish auditable reporting and controls as reasonably required by
24 YEC to confirm that this secondary energy has been used only to process Low Grade
25 Ore. Such controls are likely to involve, among other considerations, auditable reporting
26 by Minto of actual disposition of Low Grade Ore in stockpiles or as processed
27 concentrate at the Mine Site from time to time, records of specific exclusive use of mill
28 processing equipment at certain times to process such Low Grade Ore, and records of
29 actual energy use by such processing equipment at such times.

30

31 The next bullet at page 8 of the Application states that the customer is also to provide
32 reporting, as is reasonably required by YEC, to determine which portion of its recorded
33 Demand and Energy in any billing month relates to such secondary energy use (any
34 such Demand or Energy use that is not so confirmed will be charged at the Industrial

1 Primary Rate)². The rate schedule (Schedule D to the PPA) addressed this reporting
2 requirement under item (2) at pages 1 and 2, and provides for certain options:

3

4 • Aside from separate metering for secondary energy from firm energy (which will
5 not occur in this instance), an option is provided for determining the secondary
6 energy used to be all energy associated with the kV.A demand taken by the
7 customer in excess of the customer's contract maximum kV.A demand and
8 energy under the Firm Mine Rate. This approach, which reflects the approach
9 adopted in Manitoba Hydro's Industrial Surplus Energy Program rate approved in
10 the 1990s for customers using one meter for both firm and secondary energy
11 service, would allow for secondary loads only at such times when the customer is
12 already using the Firm Mine Rate to supply agreed upon maximum demand and
13 energy. Based on discussions with Minto, it is not considered likely that Minto will
14 elect to adopt this reporting approach.

15

16 • Other than as provided above, the customer must provide such additional
17 reporting as is reasonably required by YEC to determine which portion of its
18 recorded Demand and Energy in any billing month relates to such secondary
19 energy use under this rate schedule rather than firm energy at the Firm Mine
20 Rate. Any such Demand or Energy use that is not so confirmed will be charged
21 at the Industrial Primary Rate (the Firm Mine Rate). At such time as Minto
22 decides that it wants to pursue use of this rate, the Parties will work together to
23 establish reporting as reasonably required by YEC for this purpose. Such
24 reporting is expected to include provision for separate metering of electricity used
25 in mill processing, along with procedures to use such metered facilities at certain
26 times solely to process Low Grade Ore (such that metered use can be tied to
27 specific processing of only Low Grade Ore).

28

29 In summary, the rate will only apply when reporting as reasonably required by YEC can
30 be established to confirm or determine what is secondary energy as distinct from firm
31 energy under the Firm Mine rate, and further to confirm that all such secondary energy
32 has been used only to process Low Grade Ore. Failing such reporting, as reasonably
33 required by YEC, all energy use will be charged at the Firm Mine Rate.

34

² Secondary Energy in this instance will be used to process Low Grade Ore in the same processing equipment used to process high grade ore with Mine Firm Electricity; thus, unlike rate Schedule 32 Secondary Energy, this Rate Schedule 35 energy will not be separately metered from firm energy supplied by YEC. However, metering of the relevant processing equipment would at least allow for separating this processing use of electricity from other uses at the Mine Site.

1 **(3)**

2

3 Rate Schedule 35 remains fixed because this rate (unlike Rate Schedule 32) is not in
4 this instance tied to costs for displacing other energy sources; additionally, Minto can
5 only access this rate for hydro surplus energy remaining after meeting rate Schedule 32
6 customer loads (even when this rate is higher than Rate Schedule 32), and no other
7 mechanism was agreed upon for future adjustment of this rate.

1 **REFERENCE: Application, page 10**

2
3 Attachment B indicates that bringing Aishihik 3rd Turbine on line mitigates this situation
4 by reducing diesel generation costs and extending secondary sales opportunities, e.g.,
5 baseload diesel generation required in 2016 is reduced to 1.8 GW.h with the 32.5
6 GW.h/year Minto Mine load and 6.6 GW.h/year (2015) with the 43 GW.h Minto Mine
7 load.

8
9 **QUESTION:**

10
11 1. Is YEC of the view that all costs with respect to Aishihik 3rd Turbine should
12 become part of its future revenue requirement and form the basis of a cost of
13 service study? Is YEC also of the view that the results of such a study could
14 indicate revisions to all rate schedules including schedules 39 and 35?

15
16 **ANSWER:**

17
18 At such time as Aishihik 3rd Turbine is developed and comes into service, YEC assumes
19 that all costs with respect to this project would become part of YEC's revenue
20 requirement and be considered in ongoing cost of service studies.

21
22 Aishihik 3rd Turbine costs could indicate a basis to revise Rate Schedule 39. To the
23 extent that this project is accelerated as a result of the PPA and the CS/MS Project, the
24 incremental increase in expenses and return on rate base related to such accelerated
25 development would be included as Incremental YEC Costs in the determination of Mine
26 Net Revenue and, as such, would not affect rate schedules for other rate classes.

27
28 Generally, beyond affecting Rate Schedule 39, it is not apparent that cost of service
29 studies will have a material effect on other rate schedules over the next several years,
30 i.e., until such time as fundamental rate rebalancing requirements identified by the Board
31 over a decade ago have been meaningfully addressed. Further, as regards secondary
32 rate schedules such as Rate Schedules 32 and 35 it is not apparent what revisions
33 would be indicated by cost of service studies as the rates are not cost based.

1 **REFERENCE: Application, page 11**

2
3 The units provide added security to YEC and Minto as regards reliable supply at the
4 mine; in YEC's case, the purchase agreements for this asset enhance YEC's security
5 with regard to the Minto obligations to pay the Mine Spur Capital Cost Contribution.

6
7 **QUESTION:**

8
9 1. If the need of these assets was not identified in the 20-Year Resource Plan, then
10 could they not be considered redundant? If the assets are redundant, what is the
11 benefit to Yukon ratepayers? Would it be more beneficial to Yukon ratepayers to
12 receive a monetary capital cost contribution that reduces net rate base versus
13 receiving an asset which increases net rate base?

14
15 **ANSWER:**

16
17 The potential purchase of these assets was considered during the 20-Year Resource
18 Plan hearing. If acquired, the assets would not be considered redundant – YEC would at
19 that time also reassess timing of the Mirrlees Life Extension plans. These and other
20 related considerations as regards the benefits related to these units are reviewed further
21 in response to YUB-YEC-1-8(1) and (2).

22
23 The quote noted in this question from page 11 of the Application relates to only one of
24 the benefits referenced at page 11 with regard to purchase of the Diesel Units. The PPA
25 provides separately for a material Capital Cost Contribution to reduce rate base to the
26 maximum amount feasible with regard to the Minto Mine PPA. The point references
27 security benefits that occur in addition to the other relevant benefits related to acquiring
28 these units.

1 **REFERENCE: Section 5.1 No Adverse Impact on Ratepayers**

2
3 ...it is the parties intention that costs of the transmission project required to provide Grid
4 Electricity to the Mine will not adversely impact other ratepayers in the Yukon.

5
6 **QUESTION:**

7
8 1. Is there a scenario where an adverse impact can happen? If so, describe such a
9 scenario. Is there a possibility that the project could positively affect rate payers
10 (reduce rates)? What is the likelihood of such a possibility?

11
12 **ANSWER:**

13
14 While there is always risk of adverse impacts related to any development, YEC has
15 taken key measures to mitigate that risk for the Minto Mine and the Stage One CS/MS
16 Project including undertaking extensive due diligence, securing Capital Cost
17 Contributions beyond the Mine Spur, securing \$24 million of minimum take-or-pay power
18 purchase commitments within eight years and provision for the Mine Net Revenue
19 Account as well as the YEC Security to back Minto's commitments.

20
21 Nevertheless, a risk remains that adverse rate impacts can occur in an extreme "worst
22 case" type of scenario where the Mine permanently closes prematurely in its initial years
23 of operation and Minto defaults on the YEC Security. Such a scenario can create adverse
24 impacts if the Capital Cost Contribution in particular (with accrued interest) is not fully
25 paid to YEC, i.e., YEC would then be unable to recover from the Mine the amounts of
26 the unpaid Capital Cost Contribution and, in addition, likely concurrent defaults on the
27 take-or-pay and Decommissioning Cost payments would add to the adverse impacts on
28 YEC and reduce the ability of the Mine Net Revenue Account to offset such risks.

29
30 Risks related to such an extreme scenario, as reviewed at section 5.2 of the Application,
31 indicate that such a default and permanent closure of the Mine would need to occur
32 relatively early in the expected Mine Life in order to have a material effect.¹ Risks in this
33 regard would be increased to the extent that YEC experiences material delays in project

¹ The analysis at page 19 of the Application, for example, addresses a scenario where Additional Reserves are not confirmed and the full Capital Cost Contribution with interest becomes payable at the end of the fourth year of YEC service, or two years prior to the end of this shorter potential Mine life, at which time (a) the minimum take or pay payments to date will equal \$12 million, (b) the net CS Project Stage One remaining net high estimate capital cost would be \$13.4 million, (c) YEC would have paid in full for the Diesel Units (\$2.24 million), and (d) the Mine Net Revenue Account is expected to have accrued an amount of about \$7.0 million (Table C-1, Attachment C).

1 in-service and/or experiences major cost escalations beyond the high capital cost
2 estimate in the Application. See also response to YECL-YEC-1-8 as regards such a
3 hypothetical extreme scenario.

4
5 One way of mitigating the above types of risk under non-extreme scenarios is the Mine
6 Net Revenue Account. The Mine Net Revenue Account operation per the PPA retains
7 the initial net benefits from Mine operation and prevents “spending” these benefits at the
8 outset through rate reductions during the initial years of Mine operation. The deferral
9 account retains these benefits until the accrued balance in the Mine Net Revenue
10 Account equals or exceeds the CS Project Stage One Undepreciated Capital Costs (at
11 which time YEC will use any positive accrued balance in the Mine Net Revenue Account
12 to offset the YEC regulated rate base). The likelihood of this possibility will depend on
13 the risks noted earlier, as well as the extent to which other WAF load growth (including
14 other new mines) reduce or remove the current forecast hydro generation surplus.

1 **REFERENCE: Application, page 12, Mine Net Revenue Account**

2
3 **QUESTION:**

4

5 1. What is the purpose of the account? Why does YEC want incremental annual
6 Mine Net Revenues to not affect YEC earnings or the determination of the
7 revenue requirements affecting other ratepayers in Yukon? How does the Mine
8 Net Revenue Account ensure there are no adverse rate impacts on other
9 ratepayers? Does the creation of this account also ensure that there are no
10 positive rate impacts on other ratepayers? Does YEC believe this provision to be
11 in accord with regulatory, COS and rate design principles?

12 2. Why is this provision in place as protection against any potential future negative
13 earnings related to mine activities when the PPA provides security provisions for
14 YEC? Does YEC believe the security provisions are adequate?

15
16 **ANSWER:**

17
18 (1)

19
20 As stated at page 12 of the Application, the purpose of this deferral account is to ensure
21 that incremental annual Mine Net Revenue (or net costs) does not affect YEC earnings
22 or the determination of the revenue requirements affecting other ratepayers in Yukon.
23 This deferral account is one of the key PPA terms and conditions to help ensure, to the
24 extent feasible, that the provision of Grid Electricity to the Mine through the Transmission
25 Project will have no adverse impact on Yukon ratepayers in either the near or the longer
26 term.

27
28 The response to YUB-YEC-1-6(1) reviews potential impacts ratepayers, over the life of
29 the Mine, with and without the Mine Net Revenue Deferral Account. Overall, this deferral
30 account provides rate stability while ensuring that all other Yukon ratepayers are eligible
31 to receive in the future any positive net benefits that do in fact remain as a result of the
32 PPA and the Stage One CS/MS Project, i.e., with or without the Mine Net Revenue
33 Account, Yukon ratepayers will ultimately receive all of the direct net benefits that arise
34 from these activities.

35
36 As reviewed at pages 14 and 15 of the Application, the Mine Net Revenue in each fiscal
37 year will be assigned to the Mine Net Revenue Account and will not form part of YEC's

1 earnings in that year. In essence, during any fiscal year prior to the cessation of
2 commercial operations at the Mine Site, any net impacts on YEC's earnings due to the
3 Mine or due to the CS Project will be assigned to this deferral account and consequently
4 not be considered when assessing the rate requirements applicable to other ratepayers.
5 These provisions under Section 3.6 of the Agreement set aside positive net incremental
6 earnings due to power sales to the Mine, retaining these net earnings as reserves to
7 offset rate base costs and as protection against any potential future negative earnings
8 related to the Mine activities. Once the Mine ceases commercial operations, YEC,
9 subject to YUB approval, will close the Mine Net Revenue Account and use any
10 remaining funds in such manner as is approved by the YUB, after review of submissions
11 from YEC, Minto and other interested parties.

12
13 Accordingly, the provision of grid power to the Minto mine will have no material impact
14 (positive or adverse) on the rates paid by other Yukon ratepayers, at least during the
15 period prior to discharge of the YEC Security and/or the termination of 6.5% per annum
16 interest earnings on the accrued Mine Net Revenue Account. This occurs when the
17 accrued balance in the Mine Net Revenue Account equals or exceeds the CS Project
18 Stage One Undepreciated Capital Costs. At this time YEC will use any positive accrued
19 balance in the Mine Net Revenue Account to offset the YEC regulated rate base.

20
21 YEC believes that this deferral account provision is a sound and principled method to
22 address basic concerns about Stage One CS/MS Project and related PPA risks, as well
23 as potential rate instabilities that may otherwise be associated with such a project.
24 Accordingly YEC does believe it is in accord with regulatory, COS and rate design
25 principles especially in light of the Yukon context within which this project is being
26 proposed including:

27
28 • **Faro mine era of rate instability:** The last era of Faro mine activity in the 1990s
29 was associated with material rate instability for most Yukon ratepayers, i.e., rates
30 jumped up and down depending on the state of mine activity in any year such
31 that ratepayers came to view the mine (which had provided the base for
32 development of the cost effective hydro generation and transmission
33 infrastructure) as having a bad effect on Yukon rates. Neither Minto nor YEC
34 want to see the PPA lead to another similar era of rate instability tied to mining
35 activity; in this regard, rate instability related to near term rate reductions due to
36 positive and material Mine Net Revenues will not be allowed before investment
37 risk outcomes have been sufficiently resolved.

- **Faro experience with mine-related ratepayer risks:** Material concerns emerged in Yukon during the 1990s about the impact of mine-related ratepayer risks relating to bad debts, operating performance, temporary shutdowns and permanent shutdowns. The PPA is founded upon Minto providing a major Capital Cost Contribution that goes well beyond paying for the facilities being built for its sole use or what the ESRs would necessarily require (see response to YUB-YEC-1-7); in addition, Minto is providing a material \$24 million minimum take-or-pay power purchase commitment and other commitments secured by the YEC Security. Minto is providing these key commitments on the condition that a Mine Net Revenue Account is established in order to prevent rate instabilities and to further minimize Mine-related risks to other ratepayers.
- **YEC investment in CS Project development of long term infrastructure:** YEC is utilizing the PPA and sales to the Minto Mine to support investment in Stage One of the CS Project long-term infrastructure development. In order to ensure that future ratepayers are not adversely affected when this Mine closes, the deferral account as provided for in the PPA ensures that near term ratepayer benefits are retained to offset the balance of undepreciated CS Project capital costs.

(2)

As noted above, this deferral account addresses many concerns associated with rate instabilities and risk and is not being provided solely as protection against potential future negative earnings related to mine activities. YEC believes that the security provisions in the PPA reflect a strong element of protection for YEC and ratepayer interests well beyond what has been provided in the past by other mines. Nevertheless, YEC is also aware of the risks that remain and the role of the deferral account in helping ratepayers to address many of these risks.

1 **REFERENCE: Minimum Take-or-Pay Contract**

2
3 **QUESTION:**

4

5 1. Explain footnote 26 on page 15 of the Application. If the Board does not agree
6 with the COS as provided by YEC, what is the impact on this section? What is
7 the impact on other ratepayers? Should the Board focus on the cost savings to
8 Minto under the PPA or look at the impact on all ratepayers?

9

10 **ANSWER:**

11

12 Footnote 26 explains an element of Section 3.5 of the PPA.

13

14 Section 3.5 provides for reduction of the Minimum Take-or-Pay Amount to offset the loss
15 of cost savings to Minto due to “certain stipulated YUB decisions” that materially
16 adversely affect the cost savings to Minto under the PPA arising due to the conversion
17 from reliance on electricity from diesel generation at the Mine Site to Grid Electricity¹.
18 Footnote 26 at page 15 of the Application describes the “stipulated YUB decisions”
19 which can be summarized as follows:

20

21 • A YUB decision whereby the Firm Mine Rate is increased (after Board approval
22 of the PPA and the Firm Mine Rate as set out in the PPA), and such YUB
23 decision is “made on the basis of cost of service principles and methods which
24 are inconsistent with the cost of service principles and methods in Schedule E”
25 [of the PPA]; or

26 • The YUB, “in exercising its statutory jurisdiction, alters the terms and conditions
27 of this Agreement” [the PPA].

28

29 This section presumes that the YUB approves the PPA (including the Firm Mine Rate)
30 as set out in the Application by April 30, 2007, i.e., otherwise, as provided for in Section
31 3.1(a)(i) and the balance of Section 3.1, the PPA will terminate. The Board is not directly
32 asked to approve the COS principles and methods set out in Schedule E. Section 3.5 of
33 the PPA simply states that the Firm Mine Rate as provided for in the PPA was
34 established based on the cost of service principles and methods in Schedule E, and
35 acknowledges “that the Firm Mine Rate may be amended by the YUB from time to time

¹ Section 3.5 of the PPA also provides under these circumstances for the YEC Security to no longer be provided as continuing security for the Minimum Take or Pay Amount.

1 after 2008" without setting out any limitation on the YUB in making such amendments.
2 Footnote 26 pertains to decisions of the Board made after approval of the PPA. There is
3 no impact flowing from Section 3.5 from such future amendments to the Firm Mine Rate
4 unless such YUB decisions:

5

6 • result in an increase to the Firm Mine Rate; and
7 • such increase decision is "made on the basis of cost of service principles and
8 methods which are inconsistent with the cost of service principles and methods
9 in Schedule E" [of the PPA]; and
10 • such increase "materially adversely affects the cost savings to Minto under this
11 Agreement arising due to the conversion from reliance on electricity from diesel
12 generation at the Mine Site to Grid Electricity."

13

14 Section 3.5 pertains to the COS principles and methods set out in Schedule E to the
15 PPA, and not to the COS estimates set out in Attachment A to the Application. If the
16 Board makes a Firm Mine Rate decision that increases this rate and that is not
17 consistent with the Schedule E cost of service principles and methods:

18

19 • there is no impact unless such increase also materially adversely affects the
20 Minto cost savings as noted above;
21 • in the event that such increase also materially adversely affects the Minto cost
22 savings as provided for above, then Section 3.5 (as noted above) provides:
23 – for reduction of the Minimum Take-or-Pay Amount to offset the loss of cost
24 savings to Minto; and
25 – for the YEC Security to no longer be provided as continuing security for the
26 Minimum Take or Pay Amount.

27

28 The impact on other ratepayers in such event is a loss of security and Minto obligations
29 related solely to the Minimum Take-or-Pay Amount. Minto is still obligated by all other
30 terms and conditions of the PPA, and the YEC Security remains in place as continuing
31 security for such other obligations regarding bill payments, Capital Cost Contribution
32 payments, and the Decommissioning Cost Payment. Overall, the ultimate impact on
33 other ratepayers will depend on the value of such take-or-pay commitments that are
34 reduced and the security no longer provided with regard to all take-or-pay commitments.

35

36 By way of example, the Board might conclude in the circumstances that the risk to other
37 ratepayers is minimal if the Mine is expected nevertheless to keep purchasing power

1 from YEC at the levels which would otherwise have occurred. Conversely, the Board
2 might conclude in the circumstances that the risk to other ratepayers is material if the
3 Mine is expected (as a result of these changes to Minto's obligations) to no longer
4 purchase the same levels of power from YEC or to default on its obligations in a
5 situation where the loss of the YEC Security provisions in this regard have a material
6 impact on protecting future YEC and other ratepayer interests. In either situation, it is
7 assumed that the Board would focus on its mandate, normal regulatory principles and
8 the interests of all affected parties as provided for in the Board's mandate.

1 **REFERENCE: Application, Section 5.3**

2
3 Section 5.7 states that “the contribution to the Capital Costs incurred by YEC assigned
4 to a New YEC Industrial Customer for the CS Project would be based on the segment
5 and voltage level of a transmission line that each New Industrial Customer would require
6 to receive Electricity in the absence of the Transmission Project or the CS Project.”

7

8 **QUESTION:**

9

10 1. How does the above caption relate to YEC’s Terms and Conditions? Is there a
11 formula used by YEC in determining the amount of customer contributions? If
12 so, provide the formula.

13

14 **ANSWER:**

15

16 Please see the response to YUB-YEC-1-7 where YEC’s Terms and Conditions under the
17 ESRs are reviewed in the context of the principles established for determining the
18 Capital Cost Contribution by Minto. No specific formula is used in this regard, however,
19 the referenced response notes IR responses on this matter in the 2005 hearing.

1 **REFERENCE: Attachment A – Introduction and Overview, Page A-1**

2
3 Section 3.5 if the PPA in effect also provides for ongoing adjustment of the Firm Mine
4 Rate after 2008 by the YUB based on the cost of service principles and methods in
5 Schedule E. It sets out impacts with regard to the Minimum Take-or-Pay Amount and
6 the YEC Security in the event that the Firm Mine Rate is increased in future by a
7 decision of the YUB made on the basis of COS principles and methods which are
8 inconsistent with COS principles and methods in Schedule E when such a Firm Mine
9 Rate increase materially adversely affects the cost savings to Minto under the PPA.

10
11 **QUESTION:**

12
13 1. Does YEC believe that the COS principles as enunciated in Section 3.5 of the
14 PPA are the only COS principles applicable to Yukon ratepayers? Does YEC
15 believe that the YUB has discretion to direct YEC to apply the COS principles it
16 determines appropriate for the benefit of all Yukon ratepayers?

17 2. How was the final level of cost savings for Minto determined? What criteria were
18 used to determine that level to be the appropriate amount of savings? Would
19 Minto still be financially better off if the net cost savings were only \$1,000,000?

20
21 **ANSWER:**

22
23 (1)

24
25 As reviewed in response to YUB-YEC-1-16, Section 3.5 of the PPA retains full YUB
26 discretion to approve or change the Firm Mine Rate after 2008 based on COS principles
27 and methods that the Board determines appropriate based on its mandate and
28 responsibilities, and the evidence then available to the Board.

29
30 YUB has the discretion within the applicable legal requirements under Yukon legislation
31 (for example, OIC 1995/90) to ensure YEC applies COS principles determined by the
32 Board to be relevant in setting rates. YEC believes that the COS principles set out in
33 Schedule E to the PPA include all relevant COS principles necessary for the Board to
34 give the approvals requested and reflect principles and methods relevant to
35 determination of COS for the Major Industrial Customer class, and may not address
36 additional COS principles needed to determine COS for other customer classes
37 involving additional considerations. The COS principles set out in Schedule E to the

1 PPA are based on the considerations set out in Section 4 of Attachment A of the
2 Application, including:

3

4

- OIC 1995/90.
- Past COS filings of YEC/YECL.
- Previous Board COS rulings on such COS filings and related Major Industrial class rates.
- Additional general COS principles and methods adopted to reflect changes since the last YEC/YECL GRA filings, e.g., changes related to:
 - Faro mine closure, and
 - New major generation or transmission projects in service today or assumed to be in service by 2008 under the PPA.
- Specific COS principles and methods used to determine the 2008 Firm Mine Rate, many of which relate to sources of information and methods used to assess specific cost elements.

5

6

(2)

7

8

9 The PPA does not set out to establish a “final level of cost savings for Minto”, or “the
10 appropriate amount” of such savings, and therefore no attempts were made to arrive at
11 such determinations or criteria that might apply to any such determinations.

12

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Attachment D provides estimates of Minto cost savings based on the assumptions set out therein. These savings reflect assumed Minto power requirements, assumed Minto costs for on-site diesel generation, assumed start dates for YEC service to Minto and other assumptions as noted. Key factors in this regard include estimated costs for the Mine Spur (Minto will pay actual costs), and the assumed Firm Mine Rate (any future YUB adjustments up or down in this rate will affect Minto savings). The estimates assume that the Firm Mine Rate is determined based on the COS principles and methods as outlined in Schedule E to the PPA and Attachment A to the Application (i.e., if the Board reduces or increases this rate after 2008 based on different principles and methods the Minto savings will accordingly be increased or reduced).

1 **REFERENCE:** Attachment A, Forecast Consolidated Revenue Requirement,
2 page A-2

3

4 **QUESTION:**

5

6 1. Describe the coordination undertaken with YECL to determine the Rate Revenue
7 Requirements.

8

9 **ANSWER:**

10

11 No coordination was undertaken with YECL to determine the Rate Revenue
12 Requirement in Attachment A.

1 **REFERENCE: Attachment A, page A-4**

2
3 These COS filings determined cost of service estimates for each customer class based
4 on consolidated forecasts using a three-step methodology to functionalize costs, classify
5 costs, and then allocate costs to each customer class.

6

7 **QUESTION:**

8

9 1. Does YEC believe that there is a benefit to directly assigning the costs of assets
10 to specific rate classes when those assets are only used by a particular rate
11 class or can be applied to only a few rate classes?

12 2. With the development of the M-D transmission line and the proposed Stage 1 of
13 the C-S line, does YEC see a benefit in reviewing and updating the classification
14 factors for transmission assets?

15 3. Provide the studies and assumptions that the classification factors are currently
16 based on. When were such studies last undertaken? If YEC is unable to provide
17 such studies, does YEC believe it is fair for the YUB to approve a rate schedule
18 that does not have such supporting studies?

19

1 **ANSWER:**

2

3 **(1)**

4

5 In situations where an asset is used only by one customer or one rate class, specific
6 assignment of such asset costs for COS purposes may be appropriate. In the Yukon
7 context, it is also important to keep in mind OIC 1995/90, past YEC/YECL filings and
8 earlier Board decisions regarding COS, i.e., all systems for both utilities are treated
9 together in one Yukon consolidated COS study, and it is relevant to review the extent to
10 which such direct assignment of asset costs has been adopted in Yukon.¹

11 As reviewed in response to YUB-YEC-1-10(3), in the current situation relevant to the
12 COS in Attachment A of the Application for the Major Industrial Customer class, the only
13 such costs clearly eligible to be assigned only to industrial customers would appear to be
14 the Mine Spur costs (which Minto is fully responsible to pay for in any event), i.e., all
15 other asset costs appear to be shared with one or more other customer classes.

16

17 **(2)**

18

19 Attachment A recognizes that the development of the M-D transmission line and the
20 proposed Stage One of the C-S line each reflect new developments since the last full
21 COS review by the Board for the 1996/97 GRA, and YEC's filing in this regard
22 proceeded to review and update the classification factors adopted for these transmission
23 assets. Attachment A also adjusts the 1996/97 GRA COS classification for the
24 Whitehorse to Faro segment of the WAF transmission line to reflect closure of the Faro
25 mine since that time. Although Attachment A did not modify the classification used for
26 other transmission assets reviewed in the 1996/97 GRA COS filings, YEC can see a
27 benefit when the next full COS study is done for Yukon in reviewing and updating the
28 classification factors for these other transmission assets.

¹ As reviewed in Attachment A to the Application, past COS filings and Board decisions assigned to the Faro mine (the Industrial class) 85% of the WAF transmission costs for the Whitehorse to Faro line. The Board noted in Order 1996-7 that this assignment was "based on usage and is not related to the status of old versus new customer...the vintage of the customer is not currently appropriate to the development of the cost of service studies for the Yukon." The initial NEB June 1985 decision on this matter stated the following general principle: "...in the absence of contractual arrangements, established Commission policy, or regulatory decisions requiring a particular customer or group of customers to bear the cost of a new facility, be it a generating facility, transmission line or part of a distribution facility, the annual costs of such facilities should be included in the pooled costs to be allocated to all customers in the rate zone." The NEB then nevertheless went on to recommend that 85% of the annual costs of this transmission line segment be specifically assigned to this customer, reflecting "the circumstances surrounding the construction of the Whitehorse to Faro transmission line" in 1969 (an agreement between the mien and Canada, with NCPC then designated to build the 288 km line etc.), the fact that this customer when operating was assigned in excess of 95% of the annual costs of this line (remaining costs assigned partly to the towns of Faro, Carmacks and Ross River), and the NEB recommendation that this mine customer also be assigned its share of the pooled costs (including the 15% of this line's costs to be rolled into pooled costs).

1 (3)

2
3 Yes, YEC believes it is fair for the YUB to approve a rate schedule as COS in Yukon
4 does not materially hinge on detailed system studies regarding classification or
5 allocation ratios. The classification of the functionalized costs in Schedule A-1 of
6 Attachment A to the Application focuses on costs relevant only to COS for the Major
7 Industrial Customer class, and is based on the COS principles and methods in
8 Schedule E of the Application (see item A (4) re: "classify costs", as well as item B(5)).
9 The assumptions and information reviewed for each of these classifications are (see
10 also response to YUB-YEC-1-10(1) and (4)):

11

- 12 • **Generation [Production] costs:** classification based on the 1996/97 GRA COS
13 filing as approved by the Board, except as noted:
 - 14 – **“Fixed costs”** classification in Schedule A-1 is identical to 1996/87 GRA
15 COS filing as approved for each function component, and also as specified in
16 Schedule E to the PPA.
 - 17 – **“FTN added cost”** classification 100% to energy reflects an element treated
18 differently than in 1996/97 GRA (see item 7 at page A-13 for explanation - the
19 net effect of this change, and including the assumed 100% classification to
20 energy of such costs, increases costs allocated to the industrial class); this
21 classification is not specified in Schedule E to the PPA.
 - 22 – **“Secondary sales credit”** classification 100% to energy also reflects an
23 element where there is a change from the 1996/97 GRA, i.e., no secondary
24 sales were feasible when the Faro mine was assumed to be operating (see
25 item 8 at page A-13 for explanation - the net effect of this change, and
26 including the assumed 100% classification to energy of such costs, increases
27 costs allocated to the industrial class); this classification is not specified in
28 Schedule E to the PPA.
 - 29 – **Other Production costs** – classification of each functional cost component
30 based entirely on 1996/97 GRA COS filing as approved by the Board; this
31 classification is not specified in Schedule E to the PPA.
- 33 • **Transmission costs:** classification based on the 1996/97 GRA COS filing as
34 approved by the Board, except as noted:
 - 35 – **Specific Line (WAF), Mayo Dawson line and Carmacks-Stewart (Stage 1)**
36 line: classification 100% to energy reflects change to 1996/97 GRA to reflect
37 changes since (closure of Faro mine and development of new lines);

classification 100% to energy on basis that these facilities basically being used to displace diesel generation with hydro generation rather than to meet peak winter demands for the communities and industries being served (see items 9, 10 and 100 at pages A-13 and 14 for explanation - the net effect of the 100% classification to energy increases costs allocated to the industrial class); this classification is specified in Schedule E to the PPA.

– **Other lines:** classification 100% to demand based entirely on 1996/97 GRA COS filing as approved by the Board; this classification is specified in Schedule E to the PPA.

• **Distribution costs:** classification focused only on one function (Distribution & Marketing) relevant to Major Industrial Customer class, and based on the 1996/97 GRA COS filing as approved by the Board²; this classification is not specified in Schedule E to the PPA (see page A-14 for review).

² As per the 1996/97 GRA COS filing, Customer Accounting (assumed at 82.6% of these costs) is allocated 98% based on number of customers, and 2% based on energy sales; Marketing is allocated 15% based on number of customers and 85% based on energy sales. Schedule A-1 in the Application shows the end result only of these calculations, i.e., the number shown (\$37.6 thousand) is not in reality only an energy classified result.

1 **REFERENCE:** Attachment A (page A-5) – Faro mine COS rulings

2
3 **QUESTION:**

4

5 1. Please provide Exhibit 83 from the 1998 YUB hearing that set out the relevant
6 final assessments and describe the modifications for the Industrial class required
7 to reflect changes to WAF system costs. Where Schedule E classifies 100% of
8 WAF transmission costs to Energy, comment on how this classification of costs
9 conforms with the recommendations of the Electric Utility Cost Allocation Manual
10 published by the National Association of Regulatory Commissioners (NARUC)?

11
12 **ANSWER:**

13
14 Exhibit 83 from the 1998 YUB hearing is a lengthy update filed July 6, 1998 revising
15 YEC's 1998 Application then being reviewed by the Board. Almost all of that filing has no
16 relevance to the matters under review in the current Application. The following
17 referenced Schedules from Exhibit 83 are attached in Appendix A to this response:

18

19 • Schedule 3
20 • Schedule 6D¹

21
22 The following elaborations are provided as to the source of number references to this
23 Exhibit 83 in Table A-1 to the Application:

24

25 • **Column 1 re: Decision 96-7:** These numbers are provided in Schedule 3 to
26 Exhibit 83 as attached under column "1997 Approved" (total Consolidated Rate
27 Revenue Requirement of \$47.746 million, per Decision 1996-7).²

28 • **Columns 2 and 3 re: Faro Mine Adjusted 1999 and Revenue Required 1999:**
29 These numbers are provided in Schedule 3 to Exhibit 83 as attached, except for
30 exclusion of all YECL-related changes shown in Schedule 3 (theses changes
31 were not approved by the Board). These numbers reflect the assessment of 1999

¹ Board Order 1998-5 approved the recovery of the revenue shortfalls set out in Schedule 6D to Exhibit 83, excluding the Anvil bad debt and savings attributable to YECL in Schedule 6D. This Board Order also approved the 1997 and 1998 Anvil cost of service shortfalls as included in Schedule 6D (excluding Rider G balance, the approved 1997 cost of service shortfall was \$1,326,700.

² These numbers for 1997 are consistent with the 1997 COS results (see total Consolidated Rate Revenue of \$47.746 million) provided in Schedule C in Exhibit 206 in the 1996/97 GRA hearing, reflecting the COS filed in that GRA at Binder 2 Tabs 4 and 5, as updated for the negotiated settlement and final approvals given by the Board in that GRA. The relevant Schedule and portions of that exhibit were attached as Attachment A to the joint YEC/YECL "Report on the Most Recent Cost of Service Study", filed with the Board on August 24, 2005 in response to Board Order 2005-1.

1 Consolidated Rate Requirement based on the approved 1997 GRA as adjusted
2 in the 1998 hearing for closure of the Faro mine.

- **Columns 4 and 5: ROE, debt amortization adjustment and Schedule 6D adjustment:** These numbers are a break out of numbers provided in Schedule 6D to Exhibit 83 as attached for 1999 (the attached Schedule 6D shows “reduced return on equity & debt cost adjustment (YEC)” of \$909.3 thousand and “YEC adjustments (amortization & return)” of \$752.8 thousand, resulting in a total adjustment for these factors (as approved by the Board) of \$1,662.1 thousand – this is the same total adjustment provided in Table A-1 of the Application). Overall, the 1999 Revenue Required in Table A-1 of the Application reflects the adjustments to the 1997 GRA costs/required revenue as shown in Schedule 6D for YEC only (no adjustments were approved for YECL), ignoring special cost amortizations related to Anvil that either were not approved by the Board or are no longer applicable.

Schedule 6D to Exhibit 83 attached references Anvil cost of service shortfalls for 1997 and 1998 that were approved in Board Order 1998-5. The cost of service revised assessments for the Faro mine as part of the Industrial class were developed as part of the 1998 YEC application but no cost of service detailed information or assessments were provided in Exhibit 83 beyond the overall adjusted Anvil cost of service shortfall estimates.

Table A-3 in the Application sets out consolidated rate revenue COS details for 1997 by function as follows:

- **With Faro:** these numbers provide the details supporting Exhibit 206 (COS as approved by Board for 1997 based on 1996/97 GRA); assumes Faro operation in 1997 as then forecast for the 1996/97 GRA.
- **No Faro:** these numbers provide the details supporting Exhibit 83 (Anvil cost of service shortfalls for 1997 and 1998 as approved in Board Order 1998-5) except that this shows the case for 1997 with no Faro operation at all. This specific level of detail (as well as this specific "No Faro" case) was not provided in Exhibit 83.

The attached information from Exhibit 83 demonstrates the base for developing cost of service estimates by function for 2008 in a manner consistent with the 1996/97 GRA and Board Order 1998-5 approved adjustments to such industrial class cost of service to reflect the Faro mine closure. Further modifications to these function costs are set out in

1 Table A-3 as needed to develop the 2008 estimates. Other modifications for the
2 Industrial class assessments required to reflect changes to WAF system costs, including
3 classification adjustments (and the related rationale for such classification changes), are
4 described in Attachment A to the Application and in response to YUB-YEC-1-20.

5

6 With respect to classification of 100% of transmission costs to energy, this approach is
7 not specifically addressed in the NARUC manual cited. This is because this form of
8 classification is not common on cost-of-service studies in North America. However, the
9 situation in Yukon is quite unique compared to most of North America in that
10 transmission is being used primarily to offset diesel fuel costs. In this regard, YEC notes
11 the following:

12

13 • The NARUC manual specifically notes "In general, customers are allocated a
14 portion of the fully distributed (embedded) cost of the transmission system on a
15 basis similar to the way production costs are allocated". In Yukon, production
16 (i.e., generation) costs that are primarily linked to avoiding diesel fuel use are
17 classified 100% to energy. In particular this classification applies to the fourth
18 wheel at Whitehorse.

19 • One approach that NARUC cites (but notes is uncommon) is a mixture of "an
20 energy-deliver system component, allocable on an energy basis" and "a reliability
21 component, allocable on the basis of some demand or capacity measurement".
22 As the lines in question are not redundant and are specifically noted in the
23 capacity planning criteria (particularly the N-1) as being not related to firm
24 capacity reliability, such an approach would lead to a 100% energy classification.

25

26 In any event, YEC has proposed a 100% energy classification as a reasonable approach
27 to both the Mayo-Dawson and Carmacks-Stewart lines reflecting their key role in
28 displacing diesel fuel and to ensure that high load factor customers (such as Minto) are
29 not under-contributing to the overall system costs. In the event the previous 100%
30 demand classification is retained, or some mixture of demand and energy classification
31 is adopted, the cost of service allocation to Minto will be slightly reduced compared to
32 the cost-of-service calculations in the PPA.

1 **Appendix A - Schedules 3 and 6D from Exhibit 83 in 1998**
 2 **Hearing:**

3

SCHEDULE 3: CONSOLIDATED REVENUE REQUIREMENT FOR 1998 & 1999 WITH ANVIL CLOSURE (\$000)
 (Changes to forecast due only to revised Anvil loads - assume 1997 forecast applied to 1998 & 1999)

Revenue Component	1997	1998	1998	1999	1999
	<u>Approved</u> (Decision 1996-7)	<u>Adjusted</u> (Faro mine impacts)	<u>Change</u>	<u>Adjusted</u> (Faro mine impacts)	<u>Change</u>
YEC					
Fuel expense	7,828	1,967	(5,861)	1,155	(6,673)
Intercompany transfer	11	11		11	
Other operating & maintenance	9,538	8,355	(1,183)	8,191	(1,347)
Depreciation expenses, net	5,352	5,352		5,352	
Return on rate base	<u>10,417</u>	<u>9,824</u>	<u>(593)</u>	<u>9,358</u>	<u>(1,059)</u>
Revenue Requirement	33,146	25,508	(7,638)	24,067	(9,079)
YECL					
Fuel expense	2,189	1,965	(224)	1,840	(349)
Intercompany transfer	14,735	14,879	144	14,959	224
Other operating & maintenance	5,326	5,292	(34)	5,274	(52)
income tax expense	1,957	1,957		1,957	
Depreciation expenses, net	2,287	2,287		2,287	
Return on rate base	<u>3,178</u>	<u>3,178</u>	<u>-</u>	<u>3,178</u>	<u>-</u>
Revenue Requirement	29,672	29,558	(114)	29,494	(178)
Consolidated total Yukon					
Fuel expense	10,017	3,932	(6,085)	2,995	(7,022)
Other operating & maintenance	14,864	13,647	(1,217)	13,464	(1,400)
income tax expense	1,957	1,957	-	1,957	-
Depreciation expenses, net	7,639	7,639	-	7,639	-
Return on rate base	<u>13,595</u>	<u>13,002</u>	<u>(593)</u>	<u>12,536</u>	<u>(1,059)</u>
Consolidated Revenue Requirement	48,072	40,176	(7,896)	38,591	(9,481)
less:					
Other Revenues	<u>326</u>	<u>326</u>		<u>326</u>	
Consolidated Rate Revenue Requirement	47,746	39,850		38,265	
less:					
adjustments for billing(e.g.unbilled growth)	<u>103</u>	<u>103</u>		<u>103</u>	
Consolidated Forecast Required Rate Revenue	47,643	39,748		38,163	
less:					
Faro mine revenue forecast	14,820	1,091	(13,729)	-	(14,820)
Surcharge rider revenue	-	-	-	-	-
Forecast revenue non-Faro mine	<u>32,824</u>	<u>32,824</u>	<u>-</u>	<u>32,824</u>	<u>-</u>
	47,643	33,915	(13,729)	32,824	(14,820)
Revenue Shortfall	(5,833)	(5,833)		(5,339)	(5,339)

Note: source for 1997 approved costs and revenue forecasts is Exhibit 206 from 1996/97 GRA.
 see Tables 2A and 2B attached for calculation of the various adjustments.

4 YECL added wholesale cost to offset reduced diesel costed at \$.0684/kw.h (corrected 1997 wholesale rate)

SCHEDULE 6D: CONSOLIDATED REVENUE SHORTFALLS (1997 - 1999) DUE TO FARO MINE CLOSURE AFTER VARIOUS ADJUSTMENTS (\$000)

Faro mine rider requirements based on 1996/97 Settlement, adjusted for Faro mine closure

Assign & amortize Anvil potential bad debt & cost of service shortfall for 1997 and 1998

Potential fair return adjustments for YEC in 1997 and for YEC/YECL in 1998 and subsequent years & adjustments to 1997 amortization costs for 1998 & 1999

	1997 Impacts	1998 Impacts	1999 Impacts	Total
Revenue Shortfall (97GRA) excluding bad debt (Schedules 1 & 3):				
shortfall in revenue from Faro mine	7,474.9	13,728.6	14,819.7	36,023.2
fuel cost savings (YEC)	(2,929.9)	(5,861.1)	(6,672.7)	(15,463.7)
fuel cost savings (YECL)	-	(224.2)	(349.4)	(573.6)
diesel O&M savings (YEC)	(591.3)	(1,183.4)	(1,347.3)	(3,121.9)
diesel O&M savings (YECL)	-	(33.6)	(52.3)	(85.9)
7% Note savings (impact on YEC Return)	(66.7)	(593.3)	(1,058.9)	(1,718.9)
Net Impact (assumes 97GRA allowed return)	<u>3,887.0</u>	<u>5,833.1</u>	<u>5,339.1</u>	<u>15,059.2</u>
Recover to date (20% rider in 97)	(1,430.0)	-	-	(1,430.0)
Net shortfall yet to be recovered	2,457.0	5,833.1	5,339.1	13,629.2
Potential Fair Return Adjustments for 1998 and Subsequent Years (Table 3):				
(updated for long term bond yields & other major adjustments in financing costs)				
reduced return on equity & debt cost adjustment (YEC)	(318.3)	(558.8)	(909.3)	(1,786.4)
reduced return on equity/tax expense (YECL)	-	(341.5)	(341.5)	(683.1)
total adjustment	<u>(318.3)</u>	<u>(900.4)</u>	<u>(1,250.8)</u>	<u>(2,469.5)</u>
Amortize Anvil Potential Bad Debt & 98 Shortfall over 5 Years (Table 6):				
(includes return on unamortized YEC rate base)	Amount amortized (with adjusted fair return)			
outstanding Anvil invoices	3,177.2	736.7	797.1	1,533.8
97 Anvil cost of service shortfall & Rider G Balance	1,617.1	390.6	422.6	813.2
98 Anvil cost of service shortfall	<u>3,298.3</u>	<u>764.8</u>	<u>827.5</u>	<u>1,592.3</u>
total 5 year amortization	8,092.6	1,892.1	2,047.1	3,939.2
Adjustment to 1997 Amortization Costs for 1998 and 1999 (Table 7):				
(includes savings on return included in 1997 rates)	Amount amortized (with adjusted fair return)			
YEC adjustments (amortization & return)	3,664.5	(754.7)	(752.8)	(1,507.5)
YECL adjustments (amortization & return)	<u>652.8</u>	<u>(139.3)</u>	<u>(139.3)</u>	<u>(278.6)</u>
total cost reduction in rates after 97	<u>4,317.3</u>	<u>(894.0)</u>	<u>(892.1)</u>	<u>(1,786.1)</u>
Reduction for assigning Faro mine 97 & 98 cost of service shortfall	(1,326.7)	(3,298.3)		(4,625.0)
Total YEC Revenue Shortfall	(A) <u>812.0</u>	<u>2,632.5</u>	<u>5,243.3</u>	<u>8,687.9</u>
assumed 89.3% assigned to YECL wholesale customer	725.1	2,350.8	4,682.3	7,758.3
Faro mine rider requirements for all non-Faro customers during the balance of 1998 & 1999				
Calculation with adjusted fair return & adjusted 1997 amortization costs	=A/B=	5 month 97 & 98 24.60%	12 month 1999 15.97%	17 months 18.55%
YECL wholesale rider	49.86%	31.78%		37.11%
Projected non-Faro mine sales (97 GRA forecast)	(B)	14,003	32,824	46,826.5
17 months (June 1, 1998 to December 31, 1999)		YECL wholesale 97	6,168.7	14,735.2
				20,903.9

1 **REFERENCE: Flexible Term Note**

2
3 **QUESTION:**

4

5 1. Describe the Flexible Term Note (FTN), the outstanding balance, amortization
6 schedule, applicable interest rate, relevant terms, payment schedule and how
7 payment amounts are determined.

8
9 **ANSWER:**

10

11 As described in Exhibit B-16 in the Resource Plan Hearing (footnote 4), on March 30,
12 2005 Yukon Development Corporation (YDC) purchased the FTN from the Government
13 of Canada for \$11.3 million; the purchase price reflected the Note's reduced value (face
14 value of \$28.278 million at the time of the acquisition) due to there being no industrial
15 customers on WAF.

16

17 The terms of the FTN with YEC, which remain unchanged, provide for the following:

18

19

- Bears interest at 7% per annum, and requires principal payments of up to \$1
20 million, payable in annual installments;
- Payments of interest and principal to be deferred and abated, respectively, if
22 YEC's power sales on the WAF distribution system are less than specified
23 amounts.
 - No interest or principal are payable in a fiscal year if such WAF sales are 200
25 GW.h or less;
 - Full interest and principal are payable in a fiscal year if such WAF sales are
27 310 GW.h or more; and
 - Interest and principal are in effect pro-rated down from full levels in a fiscal
29 year to the extent that such WAF sales remain above 200 GW.h and below
30 310 GW.h, e.g., if such WAF sales are 255 GWG, interest is at 3.5% per year
31 and principal payable is \$500,000.

32

33 After adjusting for abated interest, the effective interest rate on the FTN for 2005 was
34 2.90% (compared to 2.86% in 2004). The FTN balance outstanding as at December 31,
35 2005 was approximately \$27.9 million after payment of the 2005 principal amount.

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- 1 For the purpose of Attachment C to the Application, the relevant WAF sales for 2005
- 2 (245.6 GW.h) were increased at 1.85% per year for non-mine sales.

1 **REFERENCE:** **Attachment A, page A-6, footnote 6**

2

3 **QUESTION:**

4

5 1. Has the use of Whitehorse #4 unit changes from strictly diesel displacement to
6 contributed to meeting winter peak demands?

7

8 **ANSWER:**

9

10 It is likely that an updated COS would need to consider the portion of Whitehorse #4 unit
11 that contributes now to meeting winter peak demands (about 4 MW out of 20 MW, based
12 on the Resource Plan). The net effect of such a change would be to reduce costs
13 allocated to the Major Industrial Customer class.¹

14

15 Conversely, an updated COS would also likely consider the revised capacity planning
16 criteria adopted by YEC and the effect of the N-1 criteria in particular as regards
17 classification of Aishihik generation costs, i.e., under the N-1 criteria Aishihik no longer
18 contributes any capability to meeting winter peak demands and thus, in effect, is used
19 only to displace diesel energy generation. The net effect of such a change would be to
20 increase costs allocated to the Major Industrial Customer class.

21

22 Overall, the Application ignores both of the above potential updates to the COS. YEC
23 currently does not expect such changes overall to result in a material change to the
24 Industrial class COS for 2008 as presented in the Application.

¹ The Firm Mine Rate as filed would still nevertheless conform with the requirements of OIC 1995/90, i.e., this rate directive requires that such rates must be sufficient to recover costs of service to this class of customers, and rates comply with the directive if they equal or exceed such costs.

1 **REFERENCE: Attachment A, Secondary Sales, page A-7**

2
3 Secondary sales revenues as forecast are treated as an offset against generation costs
4 (YECL secondary sales revenues) and distribution costs (YECL secondary sales
5 revenues); the forecast secondary sales rate variance (as forecast for 2007 in the latest
6 Rider F filing with YUB) are included as offset to generation costs.

7

8 **QUESTION:**

9

10 1. Should this assumption be reviewed to include a portion to offset some
11 transmission costs?

12

13 **ANSWER:**

14

15 No, there does not appear to be any reasonable need to consider such an added
16 complexity. The secondary sales credit related to distribution has been separated from
17 the balance, which clearly relates to the hydro energy generation fixed asset function as
18 to cause, i.e., secondary sales do not affect winter peak capacity requirements or costs.

1 **REFERENCE:** **Attachment A, page A-8**

2

3 **QUESTION:**

4

5 1. Describe the purpose of a transmission system. Could it be argued that the M-D
6 transmission system class is within that purpose and therefore should use
7 appropriate transmission classification factors and allocators? Will Stage 1 of the
8 C-S line not only meet new load requirements but also contribute to meet peak
9 winter loads?

10

11 **ANSWER:**

12

13 As noted, the classification adopted for the MD and CS lines in Schedule E of the PPA of
14 100% of these costs to energy notes that each line will basically be used to displace
15 diesel generation (rather than to meet peak system winter demands) for the communities
16 and industrial customers being served. This is consistent with basic cost of service
17 matching principles that costs should follow benefits. The benefits of the MD line relate
18 almost entirely to energy related costs (i.e. diesel fuel). See also response to YUB-YEC-
19 1-20 and YUB-YEC-1-10. In the event that future comprehensive COS reviews for
20 Yukon amend this classification such that some portion of these costs is allocated to
21 demand, the net effect will be to reduce costs allocated to the industrial class relative to
22 a classification of 100% to energy.

1 **REFERENCE:** **Attachment A, Explanation of Estimated 2008 Yukon Industrial**
2 **COS**

3

4 **QUESTION:**

5

6 1. When were the latest studies completed on Marketing, Accounting,
7 Administration and Overhead allocations? When were the latest load studies
8 completed to determine appropriate energy, demand, and customer allocators?
9 How were the forecast customer class loads estimated? What is the basis for
10 the line loss assumptions for the Minto and CS loads?

11

12 **ANSWER:**

13

14 The last time that a full COS was prepared was for the 1996/97 GRA. It is not clear
15 when, if ever, before that time specific studies were conducted for all of the elements
16 noted in the question - WAF system generation and sales load studies were carried out
17 by YECL for the 1996/97 GRA, and reflected, as appropriate, in COS assessments
18 (keeping in mind that the COS must address consolidated total Yukon loads for all
19 systems). See also response to YUB-YEC-1-10(4). In any event, the components noted
20 above, make up a relatively small part of the rate to Minto (depending on the definitions,
21 these may comprise between 1.2% and 11.5% of the line item cost identified in the COS
22 study).

23

24 The only customer class load forecast in the Application relates to the Minto mine, and
25 reflects stated requirements as set out in the PPA (Section 4.1). Total overall sales for
26 the Yukon systems and related generation were forecast as described in Attachment A.
27 Line loss assumptions for the Minto and CS loads were set at 5 percentage points above
28 assumed average WAF wholesale losses adopted for non-Industrial sales in the
29 Resource Plan (7.7%) in order to provide for such higher loss levels prior to completion
30 of the needed engineering studies.¹

¹ In the 1996/97 GRA, line loss assumptions for the Faro mine load were 9.1% for energy and 13.2% for coincident peak demand. The energy loss assumption reflected use of Faro diesel generation for portions of the mine load.

1 **REFERENCE: Attachment A, FTN Added Costs, page A-13**

2

3 “...noting that added generation due to new WAF loads resulting from the CS project is
4 in effect causing these added costs...”

5

6 **QUESTION:**

7

8 1. What new generation is this line referring to?

9

10 **ANSWER:**

11

12 The wording is intended to refer only to added use of existing generation facilities to
13 supply added WAF sales from the mine, thereby resulting in added FTN costs (see
14 response to YUB-YEC-1-22). No specific new source of generation is being suggested.

1 **REFERENCE: Attachment B, Framework for Assessment**

2
3 The assessment generally adopts the framework used in the Yukon Energy 20-Year
4 Resource Plan (2006-2025) to assess Base Case WAF forecast loads, generation, and
5 costs under various resource options.

6
7 **QUESTION:**

8
9 1. Describe the areas that deviate from the framework.

10
11 **ANSWER:**

12
13 The two key assumption changes affecting the framework are noted at the bottom of
14 page B-2 and the top of page B-3 re: secondary sales cap (at approximately 20
15 GW.h/year versus 30 GW.h/year earlier) and peaking dispatch (at 56 MW versus 54 MW
16 earlier).

1 **REFERENCE: Timing Requirements and Conditions, page 5**

2
3 YEC is to have completed its due diligence review of Minto and the mine by February
4 28, 2007.

5
6 **QUESTION:**

7
8 1. Confirm that the review was completed by that date and advise of the results.
9 2. Will the financial and legal due diligence reviews being conducted by Behr Dolber
10 and Davis and Company LLP be made available to the intervenors and the YUB?
11 3. Is the Mine still on schedule to commence commercial operations by June 30,
12 2007? If not, what is the revised date?

13
14 **ANSWER:**

15
16 (1)

17 The due diligence review of the Minto Mine has not been finally completed. There
18 remains one issue outstanding between Minto and YEC relating to Minto's possible
19 future plans of applying for an amendment to its Quartz Mining Licence and its potential
20 impact on mine life. Although negotiations on this issue are not yet complete, both Minto
21 and YEC are confident that an appropriate arrangement will be made between the
22 parties shortly which will not materially impact the PPA. As a result of this issue the
23 timing for the satisfaction of the due diligence condition in section 3.1 of the PPA was
24 extended to March 16, 2007. With the exception of this minor issue, the legal and
25 financial due diligence review undertaken by Davis & Company and Behre Dolbear has
26 been completed and their findings and conclusions which have been discussed with
27 YEC are sufficient to conclude that the due diligence condition outlined in section 3.1
28 (subject to the one issue described above) has been satisfied. Final confidential reports
29 by Davis & Company and Behre Dolbear documenting their findings and conclusions are
30 expected to be completed over the next couple of weeks.

31
32 (2)

33 In order to undertake a comprehensive due diligence review as has been done for YEC,
34 it was essential that YEC's advisors be given access to Minto's confidential commercial
35 information. Minto not only understood this need, they agreed to provide access to
36 YEC's advisors. However, in order to obtain access to that confidential information,
37 confidentiality agreements were required. Under those agreements YEC's advisors had

1 to agree not to disclose any confidential information. This is a normal term of any due
2 diligence review. Therefore, the final reports which YEC will receive from Davis &
3 Company and Behre Dolbear cannot be made available to the public because they will
4 contain and analyze confidential commercial information provided to Davis & Company
5 and Behre Dolbear by Minto Explorations Ltd. and its financial institutions. However
6 given the importance of the due diligence review to YEC in going forward with the PPA
7 and in order to provide the YUB with a summary of the due diligence reports provided to
8 YEC, outlined below is a summary of the approach taken by YEC's advisors and the
9 advice YEC has received from those advisors.

10 **A. Legal Due Diligence Review**

11 YEC retained Davis to conduct certain legal due diligence of Minto and the Mine as well
12 as Minto's parent corporation, Sherwood Copper Corporation ("Sherwood").

13 ***Davis Due Diligence***

14 For the purpose of Davis' due diligence Davis:

15 1. conducted searches of public registries both in British Columbia and the Yukon
16 Territory against Minto and Sherwood;

17 2. reviewed technical reports and letters summarizing due diligence reviews
18 undertaken by technical consultants and advisors to each of Minto and
19 Macquarie Bank Limited ("Macquarie");

20 3. reviewed material contracts to which Minto and/or Sherwood are a party,
21 including the loan and security documentation with Macquarie, the MRI
22 Agreement, and the documentation relating to Minto's most recent financing;

23 4. reviewed licences and permits to which Minto is a party; and

24 5. reviewed extensive securities disclosure of Sherwood regarding Sherwood,
25 Minto, and the Mine which is filed electronically with SEDAR at www.sedar.com.

26 Set out below is a complete list of the documents reviewed by Davis:

<u>Description of Document</u>	<u>Date of Document</u>
1. Yukon Type A Water Use License issued to Minto and Amendments dated August 6, 2002, September 20, 2005 and April 7, 2006	April 27, 1998
2. Mining Land Use Approval for a Class III Operating Plan issued to Minto and Amendment dated April 20, 2004	April 26, 1999
3. Notice of Royalty and Restriction of Transfer filed with the Yukon Mining Recorders Office by the Selkirk First Nation	April 28, 1999
4. Yukon Type B Water Use License issued to Minto and Amendments dated June 18, 1998 and February 24, 2005	August 14, 1996
5. Yukon Quartz Mining License QLM-9902 issued to Minto and Amendments dated December 22, 2005 (New License No. QML-0001) and October 5, 2006	October 4, 1999
6. Technical Report on the Minto Project prepared by OreQuest	July 15, 2005
7. SRK Consulting Memo to M. Fonseca (Macquarie Metals and Energy Capital (Canada) Ltd.) from M. Nowak regarding the Validation of Minto April 2006 Resource Estimates (Appendix A to the SRK Report dated July 2006)	April 28, 2006
8. Minto Project Due Diligence Report July 2006 Update prepared by SRK Consulting Engineers and Scientists for Macquarie Bank	July 2006
9. Due Diligence Report prepared by Mine and Quarry Engineering Services, Inc.	August 2006
10. Technical Report (NI 43-101) for the Minto Project prepared by Hatch Ltd.	August 24, 2006
11. Environmental and Legal Due Diligence of the Minto Project prepared by Lorax Environmental Services Ltd. for Macquarie Metals and Energy Capital (Canada) Ltd.	September 2006

<u>Description of Document</u>	<u>Date of Document</u>
12. Contract of Purchase between MRI Trading AG and Minto	September 27, 2006
13. CAT Financial Lease Agreements between Minto, Sherwood and Caterpillar Financial Services Limited (Three Agreements)	October 6, 2006
14. Review of Project Costs of the Minto Copper/Gold Project prepared by Mine and Quarry Engineering Services, Inc. for Macquarie	October 24, 2006
15. Syndicated Project Facility Agreement between Minto, Sherwood and Macquarie	October 24, 2006
16. Syndicated Subordinated Loan Facility Agreement between Macquarie and Minto	October 24, 2006
17. JDS January 2007 Monthly Report on the Minto Copper Mine	January 2007
18. User Agreement for Ore Storage and Loading Facilities between the Alaska Industrial Development and Export Authority ("AIDEA"), Minto and Sherwood	January 19, 2007
19. Direct Agreement between Minto, YEC and Macquarie	February 8, 2007
20. Underwriting Agreement made among Sherwood, BMO Nesbitt Burns Inc., National Bank Financial Inc., Blackmont Capital Inc., Dundee Securities Corporation, Haywood Securities Inc. and Westwind Partners Inc.	February 22, 2007

1

2 Part of Davis's retainer was to engage a mining consultant to conduct financial due
3 diligence review of the Mine. As noted below, as a result of an interview process, Davis
4 retained as a consultant to Davis, Behre Dolbear & Company, Inc. ("BDC") of Denver,
5 Colorado.

1 ***Due Diligence Standard***

2 In Davis' opinion the due diligence investigations of Minto, the Mine, and Sherwood
3 carried out by Davis and BDC were extensive and of a standard one would expect to see
4 in circumstances comparable to those of YEC entering into the PPA with Minto. In
5 particular, the due diligence focussed on any legal, technical, or financial issues which
6 would raise concerns to YEC about Minto's ability to fulfill its obligations to YEC under
7 the PPA, in particular Minto's ability to make the:

- 8 1. Mine Spur Capital Cost Contribution;
- 9 2. Carmacks-Minto Landing Capital Cost Contribution;
- 10 3. minimum take or pay obligation under Section 6.2 of the PPA; and
- 11 4. Decommissioning Cost Payment;

12 given Minto's financial obligations to Macquarie under the PLF Agreement and the SLF
13 Agreement, to MRI under the MRI Agreement, the holders of convertible unsecured
14 subordinated debentures in the amount of \$40 million (CDN) in respect of an offering
15 announced on February 22, 2007, and Minto's other obligations in respect of the Mine
16 generally, (the "**Minto Obligations**").

17 ***Davis Due Diligence Findings***

18 *Searches of Public Registries*

19 Davis conducted extensive searches of public registries both in the Yukon Territory and
20 British Columbia of each of Sherwood and Minto. Both Sherwood and Minto are
21 incorporated entities. Sherwood is listed on the TSX Venture Exchange and is a
22 reporting issuer of its securities in each of British Columbia, Alberta, Manitoba, Ontario,
23 and Nova Scotia. Minto is a wholly-owned subsidiary of Sherwood. Minto owns 100%
24 of the mineral claims which constitute the Mine, subject to a 0.5% net smelter return
25 royalty in favour of the Selkirk First Nation ("**SFN**").

26 Each of Minto and Sherwood have a number of Personal Property Security Registrations
27 against them in each of the Yukon Territory and British Columbia. These registrations
28 relate to the leasing of equipment and vehicles for the Mine as well as the financings
29 which Minto has done with each of Macquarie and MRI. None of these registrations are
30 unusual.

31 A search in the Yukon Territory and British Columbia indicate no litigation against either
32 Minto or Sherwood as at the latest date of Davis' searches being January 22, 2007.

1 *Project Financing*

2 Minto has financed the construction of the Mine through loan facilities with Macquarie in
3 the amount of approximately \$58 million (USD) and \$20 million (CDN)¹. In addition
4 Minto has arranged an inventory financing facility with MRI of approximately \$20 million
5 (USD)² and a new financing of \$40 million (CDN) of convertible subordinated debentures
6 through an underwriting lead by BMO Capital Markets. The recent financing with BMO
7 Capital Markets will be used, in part, to replace the \$20 million (CDN) financing which
8 was originally arranged with Macquarie.

9 Davis has reviewed all the documentation relating to each of these project financing
10 facilities.

11 The project financing facilities are well documented and appear to be on commercially
12 reasonable terms. When the security granted to YEC under the PPA is registered it will
13 rank behind only the Macquarie bank facility with respect to all of Minto's property and
14 assets, including the Mine, with the exception of the copper concentration. MRI will have
15 the first charge over the copper concentrate with Macquarie and YEC ranking second
16 and third. All other creditors, including the holders of the convertible subordinated
17 debentures will rank behind YEC.

18 Each of YEC, Macquarie, and Minto entered into a direct agreement dated February 8,
19 2007 (the "**Direct Agreement**"). The Direct Agreement provides for the respected
20 priorities between YEC and Macquarie and sets out a procedure to be followed if Minto
21 goes into default under either the Macquarie loan facilities or the PPA.

22 The main points of the Direct Agreement are as follows:

- 23 (a) Macquarie acknowledges YEC's priority with respect to its Miner's Lien
24 rights consisting of the cost of electricity provided, the Capital Cost
25 Contribution accruing due and interest accrued thereon.
- 26 (b) any other security held by YEC is subordinate to Macquarie's security.
- 27 (c) YEC agrees not to enforce its security until Macquarie is paid out, but
28 YEC maintains its Miner's Lien rights.
- 29 (d) Macquarie acknowledges the terms of the PPA which provide that Minto
30 will not make certain changes to the terms of its loans with Macquarie
31 without YEC's prior consent.

¹ The \$20 million (Cdn) facility with Macquarie has not to date been utilized.

² There is presently nothing owing under this facility.

1 (e) YEC agrees to give a copy of each invoice to Macquarie together with a
2 statement of liabilities (showing unpaid amounts and any other
3 outstanding obligations) and agrees that Macquarie may pay the invoice
4 directly.

5 (f) YEC agrees to give Macquarie 15 Business Days notice of its intention to
6 terminate or suspend the delivery of electricity to Minto.

7 (g) Macquarie can use the 15 Business Days to decide whether to step in
8 and take over Minto's operations.

9 (h) if Macquarie does not step in then YEC is free to enforce its Miner's Lien
10 rights.

11 (i) if Macquarie does step in, then it must pay the arrears within 5 Business
12 Days and thereafter it must pay the monthly invoices (for power, accrued
13 Capital Cost Contribution and interest and accrued Decommissioning
14 Costs) within 10 Business Days of receipt.

15 (j) if Macquarie gives YEC its direct covenant to pay the electricity then YEC
16 will give Macquarie 30 calendar days (rather than 10 Business Days) from
17 the receipt of the invoice to pay.

18 (k) if Macquarie steps out or doesn't pay when due, then YEC can terminate
19 and exercise its Miner's Lien rights.

20 *Permits and Approvals*

21 In the course of Davis' due diligence Davis reviewed Minto's various permits and
22 approvals under applicable legislation which would be necessary for Minto to own and
23 operate the Mine. Davis is of the view that Minto has all requisite permits and approvals
24 required to own and operate the Mine and that each of these permits and approvals are
25 in good standing.

26 *Environmental*

27 Davis reviewed various third party environmental reports relating to the Mine. Although
28 Davis did not undertake any independent environmental searches, site visits,
29 investigation, or interviews, Davis is of the view that Minto has all necessary
30 environmental permits and approvals required to operate the Mine.

1 ***Closure and Reclamation***

2 Minto has obligations under both its water licence and under the *Quartz Mining Act* to
3 furnish and maintain security. Davis' review indicated that Minto has posted all the
4 security currently required to be posted under both its water licence and the *Quartz*
5 *Mining Act*.

6 ***First Nations***

7 On July 21, 1997 SFN signed a comprehensive land claim agreement ("LCA") with the
8 Yukon Territorial Government and the Government of Canada. Under the LCA, the SFN
9 were afforded rights to exercise certain powers over land use and environmental
10 protection. The Mine lays within SFN category A settlement lands where both surface
11 and mineral rights are reserved for the SFN. On September 16, 1997 Minto and the
12 SFN entered into a Co-operation Agreement setting out the manner in which Minto and
13 the SFN will work together on a variety of project related issues including environmental,
14 social, and financial issues. Under the Co-operation Agreement Minto has granted to
15 the SFN a 0.5% net smelter royalty interest in the Mine.

16 Minto has also entered into five surface leases and access agreements with SFN with
17 respect to all the surface rights Minto requires for the purpose of owing and operating a
18 mine.

19 ***Material Contracts***

20 Minto has entered into a number of material contracts with various parties to assist in the
21 construction and operation of the Mine.

22 On January 19, 2007 Minto and Sherwood entered into a User Agreement with the
23 Alaska Industrial Development and Export Authority for the refurbishment of the
24 Skagway ore terminal and its subsequent use by Minto for storage and handling.

25 Under the User Agreement Minto is responsible for certain costs. In addition, Minto is
26 obligated to pay a user fee.

27 In addition, Minto has entered into a number of leases for capital equipment, in
28 particular, leases with Caterpillar Financial Services Limited for the Diesel Units which
29 will provide power to the Mine until the Mine is connected to the YEC grid.

1 ***Conclusion***

2 Davis identified no issues which, based upon the information currently available to Davis
3 and reviewed by Davis during its due diligence, would impact upon Minto's ability to fulfill
4 the Minto Obligations.

5 **B. Financial Due Diligence Review**

6 Part of Davis & Company LLP's retainer was to engage a mining consultant to undertake
7 a financial due diligence review of the Minto Project. Davis & Company along with
8 representatives of Yukon Energy Corporation identified and interviewed several
9 reputable mining consulting companies who had substantial experience in undertaking
10 due diligence reviews. As a result of the interview process, Davis & Company retained
11 Behre Dolbear & Company, Ltd., a wholly owned subsidiary of Behre Dolbear &
12 Company Inc. (see YUB-YEC-1-29 Attachment 1 for copies of Behre Dolbear's
13 corporate qualifications and the CVs of the individuals who were involved in the review).

14 Behre Dolbear was retained to conduct a due diligence review of the Minto Project to
15 provide Davis & Company, on behalf of Yukon Energy, an opinion on the economic
16 viability of the Project and Minto's potential ability to fulfill its financial obligations to
17 Yukon Energy.

18 In order to undertake a due diligence review it was necessary for Behre Dolbear to
19 review confidential information of Minto Explorations Ltd. and Macquarie Bank (the
20 financial institution which provided financing to Minto) including due diligence reports
21 prepared for Macquarie Bank which also reviewed the economic viability of the Minto
22 Project. Therefore Behre Dolbear representatives were required to enter into a
23 Confidentiality Agreement. As a result Behre Dolbear cannot publicly disclose the
24 confidential information provided to it during its due diligence review.

25 Behre Dolbear has completed its due diligence review and is in the process of preparing
26 a detailed confidential report for Yukon Energy, which will be finalized over the next two
27 weeks.

28 The following information summarizes the approach taken by Behre Dolbear along with
29 their opinions.

30 Behre Dolbear reviewed the economic viability of the project under seven headings:
31 geology; capital spending; mining; environmental and regulatory; transportation, smelting
32 and marketing; financial analysis and risk assessment. Their findings and opinions in
33 relation to each matter are summarized below.

1 ***Geology***

2 Behre Dolbear found that Minto's geological resources were well documented with
3 recognized methodologies used to develop a Mineable Reserve.

4 Minto recently announced other nearby deposits that contain potentially mineable copper
5 grades. The life of the Minto Mine could be extended if these deposits are proven
6 economic.

7 After review by the Behre Dolbear team, geologic interpretations, as made by Hatch Ltd.
8 and SRK Consulting Engineers and Scientists³ in their reports, were considered to be
9 correct and verified by observations of diamond drill core intersections, a review of drill
10 programs and a check of data integrity.

11 ***Capital Spending***

12 Behre Dolbear determined that the capital spending for the project to develop the open
13 pit mine and construct processing facilities is well underway and progressing. Although
14 in their view the project is on a very tight schedule and as a result there is a risk of cost
15 overruns and delay in the mine start up date, they do not believe that the length of any
16 delay or the amount of any cost overruns, should by occur, (given the amount of
17 financing available to Minto) will materially affect the viability of the mine from YEC's
18 perspective.

19 ***Mining***

20 Behre Dolbear determined that mine development is now well advanced with an initial
21 ore zone being recently exposed. Stockpiling of ore will occur in the coming months,
22 well ahead of mill start up. They found that the mine plan has been significantly
23 improved relative to the confidential Detailed Feasibility Study issued by Hatch and
24 Associates in July, 2006.

25 Behre Dolbear's review did not discover any issue in relation to mining costs that would
26 impact materially on the economic viability of the mine from Yukon Energy's perspective.

27 ***Ore Processing***

28 Copper-bearing ore is primarily comprised of chalcopyrite and bornite, both sulphide
29 minerals. The absence of pyrite and other deleterious elements simplifies the
30 processing flowsheet, and so raises the confidence that in all likelihood a clean, high-

³ Hatch Ltd. and SRK Consulting Engineers and Scientists were retained by Macquarie Bank to undertake a due diligence review of the economic viability of Minto and the Minto Project prior to agreeing to finance the Minto Project.

1 grade concentrate can be realised. Estimates of costs to construct and operate the mill
2 are comparable with mills of similar size in semi-remote locations.

3 Contemporary testing on a global composite sample averaged 2.5% Cu, which is fairly
4 representative of the ore grade for the early years of production. The test yielded
5 favourable copper, gold and silver recoveries of 96 per cent, 77 per cent and 83 per
6 cent, respectively. The presence of bornite contributes to producing a high-grade
7 copper concentrate which can be expected to exceed 35 per cent copper and contain
8 11.9 g/t gold and 131 g/t silver.

9 Operating costs appear adequately detailed in the Hatch study, but may require up-
10 dating in view of the new operating realities at the project. However, in Behre Dolbear's
11 opinion these issues will not materially impact the viability of the project from Yukon
12 Energy's perspective.

13 ***Environmental and Regulatory***

14 Behre Dolbear is satisfied that environmental and regulatory requirements appear to be
15 met.

16 ***Transportation, Smelting and Marketing***

17 A concentrate haulage contract is not yet finalized but is not expected to present a
18 problem, according to company officials. Concentrate will be transported at a nominal
19 8% moisture content in highway trucks to Skagway, Alaska, USA, a distance of
20 approximately 400km. In Skagway a storage and ship loading arrangement has been
21 negotiated with AIDEA. Necessary port upgrade costs will be initially borne by AIDEA,
22 then transferred to Minto via a concentrate handling surcharge.

23 A concentrate off-take contract has been signed with MRI Trading AG of Zug,
24 Switzerland. Ownership of concentrate transfers to the buyer at the mine gate.
25 Concentrate shipment costs, including inland freight, port handling and ocean freight to a
26 smelter of MRI's choice, will be borne by MRI and deducted from payments made to
27 Minto.

28 Behre Dolbear does not believe there to be any material issue raised in relation to
29 transportation, smelting and marketing.

30 ***Financial Analysis***

31 The following information was provided by Behre Dolbear in relation to their financial
32 analysis of the Project.

1 Minto has financed mine development and construction with a combination of equity and
2 debt financing. Mine construction is directly financed through a loan from Macquarie
3 Bank Limited. Macquarie has protected their exposure by directing Minto to enter into a
4 forward sales contract for copper, gold and silver metal. Minto has agreed to repay the
5 loan from operating revenues by 2009.

6 In addition to agreeing to finance a portion of the Yukon Energy electrical transmission
7 line over a 7-year period, Minto has also raised funds through equity financing and a
8 debenture that matures in 2012 and carries interest charges in the interim.

9 Under present conditions and according to information reviewed by Behre Dolbear, the
10 Minto mining venture should generate a positive cash flow that is adequate to service all
11 debt obligations including Minto's obligations to Yukon Energy under the PPA and also
12 generate returns for shareholders.

13 ***Risk Assessment***

14 Behre Dolbear identified that the Minto Project is not without risks, however, such risks
15 are normal for such a project. Aside from operational risks of starting a new mine in
16 central Yukon Territory, a shortage of skilled and experienced labour, equipment risks
17 and climate challenges, the operation is moderately exposed to commodity price
18 variations.

19 ***Behre Dolbear Conclusions***

20 In Behre Dolbear's opinion, after factoring in any issues relating to possible delays and
21 cost overruns, and other issues identified in review of the confidential information, the
22 Minto Project continues to show positive after tax cash flow over the life of the mine and,
23 therefore based on Behre Dolbear's review, the projected cash flow is adequate to
24 service all debt obligations including Minto's debt obligations to Yukon Energy under the
25 PPA, and also generate returns for shareholders.

26 Behre Dolbear does point out that after April 2011 when the forward sales contract
27 expire (assuming no further similarly advantageous forward sales contracts are
28 negotiated), the sale of all concentrate is subject to commodity risk. However, in Behre
29 Dolbear's opinion, a conservative forecast of the long-term annual price of copper is
30 expected to be in the order of US\$1.20-\$1.30/lb. Based on these prices and assuming
31 the debt to Macquarie is paid as required under their present financing, the projected
32 cash flows post 2010 are adequate to serve Minto operating expenses and debt
33 obligations including Minto debt obligation under the PPA.

1 (3)

2 Minto has not announced any change to their target to start commercial operation in Q2
3 2007.

1 **REFERENCE: Timing Requirements and Conditions, page 6**

2

3 **QUESTION:**

4

5 1. The PPA sets out consequences to YEC if YEC is unable to provide
6 Commencement of Delivery by September 30, 2008 to the mine. In the event
7 YEC is unable to meet this date, what assurances can YEC provide that there
8 will be no negative impact to ratepayers?

9

10 **ANSWER:**

11

12 The PPA sets out the consequences of delay in the Commencement of Delivery. As
13 reviewed in response to YUB-YEC-1-14, the PPA in this regard (as well as other
14 potential scenarios noted) retains potential scenarios where there could be a reduction in
15 the short-term or long-term benefits to ratepayers through loss of revenues due to delays
16 (see YUB-YEC-1-4), potential penalties or added costs resulting from delays after
17 September 30, 2009, and other factors. In many such instances, the Mine Net Revenue
18 Account will mitigate such adverse effects so as to prevent near-term adverse rate
19 impacts and act only to reduce long-term ratepayer benefits. (see response to YUB-
20 YEC-1-15 as well as UCG-YEC-2-1).

1 **REFERENCE:** **Timing Requirements and Conditions, page 7**

2

3 **QUESTION:**

4

5 1. The PPA indicates that the Firm Mine Rate may be amended by the YUB from
6 time to time after 2008. If the YUB amended the mine rate prior to this time, is
7 there any consequence on the PPA?

8

9 **ANSWER:**

10

11 Any such amendment is not contemplated by the PPA, i.e., YEC would understand that
12 YUB approval of the PPA would involve approval not to change the Firm Mine rate until
13 after 2008.

1 **REFERENCE: PPA, Section 5.1, page 11**

2
3 YEC states in the PPA that there is “no net costs to Yukon ratepayers”, and further, that
4 no individual ratepayer will see an increase to their rates due to the Transmission
5 Project.

6
7 **QUESTION:**

8
9 1. Would this statement still hold if Sherwood Copper were to default on its financial
10 obligations to YEC?

11
12 **ANSWER:**

13
14 The PPA includes many measures to prevent or mitigate net cost impacts to Yukon
15 ratepayers, and to secure long-term ratepayer benefits, from the Mine and the Stage
16 One CS/MS Project, including the Mine Net Revenue Account and the YEC Security as
17 continuing security for key obligations and commitments undertaken by Minto.

18
19 As a result of the PPA’s protection measures, a default by Minto need not automatically
20 lead to net costs being imposed on ratepayers.

21
22 In general, under conditions where operation of the Mine remains viable using electricity
23 delivered by YEC under the terms of the PPA, YEC would still expect there to be no
24 overall adverse impact on other ratepayers from the costs of the Transmission Project if
25 Minto Explorations Ltd. (the party to the PPA) were to default on its financial obligations
26 to YEC.

27
28 As noted at page 11 of the Application (Section 5.1), the PPA states that “It is the
29 Parties’ intention that other ratepayers in the Yukon Territory will not be adversely
30 impacted by the costs of the Transmission Project required to provide Grid Electricity to
31 the Mine.” In this context, it is intended and expected that there will be “no net cost to
32 Yukon ratepayers”, and that no individual ratepayer will see an increase to their rates
33 due to the Transmission Project. The PPA includes many provisions designed to
34 prevent any net cost to Yukon ratepayers, including the Capital Cost Contribution, the
35 take-or-pay provisions, the YEC Security, and the Mine Net Revenue Account.
36 Nevertheless, as reviewed in response to YUB-YEC-1-14, risks remain that adverse rate
37 impacts can occur under certain extreme scenarios.

1 Focusing on the matter of a default by Minto, a default does not automatically mean that
2 there will be a net cost to YEC or other Yukon ratepayers.

3

4 YEC was able to negotiate an arrangement with both Minto and its lender Macquarie
5 Bank Limited (the “Direct Agreement” dated February 15, 2007) that if payment is not
6 made by Minto within 30 Business Days of an invoice being rendered for a power bill¹
7 (with a copy to Macquarie) YEC can terminate power supply to the Mine (assuming
8 Macquarie within a certain time period does not agree to step in and honour the relevant
9 outstanding obligations), and the amount due and owing will be lienable against the Mine
10 property and the Mine assets (under the *Miner’s Lien Act*). This ensures that YEC will
11 have a charge over Minto’s assets in priority to Minto’s lenders for the amount
12 outstanding. In this way YEC and therefore ratepayers’ risks are limited in amount and
13 in terms of the capability of ensuring appropriate monthly payments are made (both for
14 electricity and for loan payments).

15

16 Ultimately, notwithstanding a default by Minto, the PPA provisions are expected to
17 provide YEC and Yukon ratepayers with protection so long as operation of the Mine
18 remains viable using electricity delivered by YEC under the terms of the PPA with regard
19 to rates and the Capital Cost Contribution payments. So long as the Current Bank
20 Financing as defined in the PPA remains in place with Macquarie, the Direct Agreement
21 provisions will provide YEC with the protections noted above as regards ongoing
22 payment of monthly invoices. Thereafter, the YEC Security will provide YEC with a first
23 charge over the Mine assets substantially as set out in Schedule F to the PPA.

24

25 As reviewed in the Application and the response to YUB-YEC-1-14, the risk that adverse
26 rate impacts could occur if a default relatively early in the expected Mine life is
27 associated with a permanent closure of the Mine.

¹ As defined, a Minto Power Bill each month includes charges for electricity delivered by YEC plus charges currently payable for the Capital Cost Contribution.

1 **REFERENCE:**

2 **QUESTION:**

3

4

5 1. Provide an example [Table format over a typical year] using Minto Mine energy
6 requirements on how the Peak Shaving Option and Winter Load Contract would
7 work.

8

9 **ANSWER:**

10

11 The Peak Shaving Credit is an option available under the Firm Mine Rate (Schedule C to
12 the PPA). This option affects only the Demand Charge under the Firm Mine Rate, i.e., no
13 change occurs to the Energy Charge of the Fixed Charge.

14

15 To pursue this option, the customer (Minto) must nominate the Winter Contract Load at
16 no less than two-thirds of the customer's contract maximum load.

17

18 • For Minto, under the PPA, the **Maximum Electric Demand** under the PPA is
19 currently 4.4 MV.A (Section 4.1 and 4.5 of PPA).
20 – Assume Maximum Electric Demand is 4.4 MV.A, occurs in winter and equals
21 the highest **Billing Demand** (under the Firm Mine Rate) in any 12 month
22 period (i.e., under the Firm Mine Rate 4.4 MV.A then becomes the Billing
23 Demand applicable throughout the year).
24 • Accordingly, the customer can currently nominate a **Winter Contract Load** of no
25 less than 2.935 MV.A.
26 – Assume Winter Contract Load is 2.935 MV.A.
27 • **Peak Shaved Load** is then 4.4 MV.A less 2.935 MV.A (1.465 MV.A each month).

28

29 The Demand Charge and Peak Shaving Credit would then be as follows each month
30 under this example:

31

32 • **Normal Demand Charge:** 4,400 kV.A times \$15.00/kV.A: equals \$66,000 per
33 month.
34 • **Peak Shaving Credit:** Peak Shaved Load time 50% of the Demand Charge
35 – 1,465 MV.A times \$7.50/kV.A: equals \$10,987.50 per month.

¹ See same analysis at Attachment A of Application, page A-16. Attachment A in effect assumes a power factor of 1.00 for billing demand at the Mine.

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- 1 – Final Demand Charge less Peak Shaving Credit equals \$55,012.50/month.

1 **REFERENCE:**

2

3 On February 1, 2007, the President of Sherwood Copper was quoted on the CBC as
4 saying that the only way the transmission line [Stage 1 C-S line] will be built is if YEC
5 carries the financing [~\$11million] because Sherwood has no more debt capacity.

6

7 The BMO and flow through financing was done after this statement was made. The
8 majority of the YEC loan repayments do not take place until after year 4 of production.

9

10 It would seem that mining companies and their investors are in the risk business but the
11 YEC and its ratepayers are not. It would appear to be difficult to forecast what metal
12 prices would be in four years when YEC would be receiving the bulk of its repayments.
13 Minto is expected to save about \$26.5 million over the period 2008-2016 using power
14 from Stage 1 of the C-S line rather than generating electrical energy on site by diesel.

15

16 **QUESTION:**

17

18 1. Why is YEC assuming the risk and carrying the cost of the contribution when a
19 significant financial benefit is accruing to Minto? Does YEC normally finance the
20 contributions of its customers?

21

22 **ANSWER:**

23

24 YEC does not (and has not to date) finance(d) the contributions of its customers for
25 extensions of service. YEC is carrying the risk in this instance in response to the special
26 circumstances in this case, and based on the terms and conditions established in the
27 PPA to protect YEC.

28

29 A key starting point, as the quote states, is that Minto has consistently said that it did not
30 have the capability to obtain conventional debt financing to pay YEC at the outset (or to
31 provide a letter of credit for same) for the capital requirements to interconnect to the
32 grid.¹ YEC was informed that without financing by YEC the Mine would not interconnect

¹ The \$40 million BMO financing that has recently been concluded as at February 28, 2007 is not conventional secured debt financing, i.e., it is a convertible debenture. This financing enhances the YEC Security in that it removes a material portion (\$20 million, with the later repayment date) of the Macquarie Current Bank Financing that ranks ahead of the YEC Security; in addition, the BMO financing greatly enhances the overall financing for the Minto Mine to proceed with its current plans plus expected Additional Reserves development and provides further demonstration to YEC of confidence in this project by major financial institutions following their own respective due diligence reviews. The 5% interest payable under the BMO financing is materially below the 7.5% cost of capital charged by YEC to Minto under the Capital Cost Contribution financing.

1 with the grid. This matter was pursued with Minto for some time, and YEC in the end
2 concluded that no reasonable option was available if the project was to proceed at this
3 time other than, in effect, to provide financing for Minto's Capital Cost Contribution.

4

5 Upon review of the financing option, YEC learned of at least one recent regulatory
6 example where a regulated power utility financed a new transmission line connection to
7 serve only one mine customer.² In 2005, Newfoundland and Labrador Hydro (Hydro)
8 received regulatory approval from the Board of Commissioners of Public Utilities (the
9 Regulator) in Newfoundland and Labrador (Order No. P.U.12 (2005)) for the capital
10 spending and the customer contribution agreement whereby Hydro would construct a 69
11 kV transmission interconnection of approximately 45 km to provide a load of 15 MW of
12 power to a mine site (the Duck Pond Site) owned by Aur Resources Inc. at a cost of
13 approximately \$5.7 million that Aur will pay in equal monthly amounts over a five-year
14 period together with financing costs at the weighted average cost of capital for Hydro as
15 approved by the Regulator. At the time of this approval, the estimated economic life of
16 the new Duck Pond Mine was between six and seven years. The contribution
17 agreement for this utility financing did not include any take-or-pay provisions, special
18 security or other special provisions to support such financing commitment.

19

20 Faced with an inability to secure Minto financing and the regulatory example regarding
21 the Duck Pond Mine site where utility financing for such a transmission connection was
22 provided with regulatory approval, YEC reviewed the 20-Year Resource Plan objectives
23 and options, as well as the potential terms for YEC to provide financing for the Minto
24 Capital Cost Contribution, noting the following in particular:

25

26 **• Surplus Hydro:** WAF surplus hydro conditions provide near-term opportunities
27 to secure long-term benefits for other Yukon ratepayers if sales can be made to
28 the Minto Mine; however, forecasts demonstrate that this surplus and the related
29 opportunities are "time limited" and will shrink each year.

30

31 **• Investment only to serve Mine would ignore long-term Resource Plan**
32 **objectives:** The ESRs regarding maximum utility investment by YEC in an
33 extension of service to the Minto Mine would, under the current surplus hydro
34 conditions, support a YEC investment of at least \$7 million in a 35 kV extension

² As noted in the 1985 NEB report on NCPC, the utility (NCPC) bore all of the risk and cost for the original WAF transmission from Whitehorse to the Faro mine.

1 to serve only the Mine³; however, this approach would develop facilities only to
2 serve the Mine, on the understanding that all of these facilities (including the 35
3 kV line from Carmacks to Minto Landing) would be removed when the Mine shut
4 down.

5

- 6 • **Long-term use planned for CS facilities:** The CS Project facilities as planned
7 would be built as long-term ongoing infrastructure for the benefit of all Yukon
8 ratepayers, as the first stage of the project to connect the WAF and MD grids,
9 and not solely to serve only one customer (the Minto Mine); to this end, these CS
10 facilities as planned will not be decommissioned or shut down when the Mine is
11 shut down. However, Stage One from Carmacks to Pelly Crossing at 138 kV (to
12 contribute to the long-term project objective) requires material investment by
13 YEC beyond what is needed simply to connect the Minto Mine to the WAF grid at
14 35 kV.
- 15
- 16 • **Magnitude of Minto savings creates special opportunities:** Minto can afford,
17 from its diesel generation cost savings related to securing grid electricity, to pay
18 fully for the capital costs otherwise needed for it to connect the Mine to the grid,
19 i.e., material cost saving benefits are still available to the Minto Mine from Grid
20 Electricity service even if the Mine was required to pay 100% of the cost
21 estimated for the basic additional facilities (i.e., for additional 35 kV line facilities
22 between Carmacks and Minto Landing) to connect the Mine with the WAF grid.⁴
23 Based on Minto committing, as part of its Capital Cost Contribution, to fund \$7.2
24 million of the CS Project capital cost (as well as all of the actual Mine Spur capital
25 costs), YEC's investment derived from new power sales using the current hydro
26 surplus can go towards development of long-term infrastructure in the CS Project
27 as planned in the Resource Plan.
- 28
- 29 • **Minto minimum take-or-pay commitment of \$24 million within eight years of
30 YEC service:** The Minto minimum take-or-pay commitment provided YEC with
31 confirmation as to special added commitments by Minto, in addition to the \$7.2
32 million Capital Cost Contribution to the CS Project, to provide material revenues
33 to YEC from near-term sales of surplus hydro, i.e., such revenues will, in
34 combination with the Mine Net Revenue Account, enable YEC to, in effect,

³ See response to YUB-YEC-1-7.

⁴ Based on Attachment D to the Application, Minto savings from 2008 to 2016 would approximate \$23.7 million (\$16.6 million present value); the estimate of \$26.5 million includes YEC payments for the Diesel Units.

1 recover the full expected costs of the Stage One CS Project over the life of this
2 Mine.⁵

3

4 • **Minto security provided to YEC:** In addition to the \$7.2 million Capital Cost
5 Contribution to the CS Project and the \$24 million take-or-pay commitment, the
6 YEC Security provides YEC with a charge over the all assets of Minto, including
7 the Mine, second only to the Current Bank Financing⁶, as continuing security for
8 the payment of the Capital Cost Contribution plus accrued interest, the Minto
9 Power Bills, the minimum take-or-pay obligations, the Decommissioning Cost
10 Payment, and Minto payments to Caterpillar related to the Cat Leases after these
11 leases are assigned to YEC.

12

13 Overall, the above considerations combined with the fact that sale of YEC's hydro
14 surplus at the Mine Firm Rate will not only reduce the YEC risk as each year of new
15 service passes but will result in material benefits to ratepayers (see response to YUB-
16 YEC-1-4) convinced YEC that it would be prudent to conclude the PPA for YUB review
17 and approval.

18

19 If approved by the YUB, the PPA means that a major Yukon infrastructure development
20 can now be undertaken which will ultimately interconnect YEC's two grids.

21

22 Subject to completion of its due diligence and the other conditions in the PPA, YEC is
23 satisfied that although it is taking a risk, that risk is manageable (with the various terms
24 and conditions under the PPA including the Mine Net Revenue Account) and it is a risk
25 worth taking in these circumstances. For more on due diligence please see YUB-YEC-
26 1-29.

⁵ See Attachment C to Application; also response to YUB-YEC-1-15.

⁶ A material element of YEC's review involved consideration of the expected life of the Minto Mine, which Minto's current official mine plan sets out as 7.2 years (or until at least the fall of 2014 if commercial operation begins in June 2007), and the PPA expects to exceed 10 years (or until at least the fall of 2017). In contrast, with completion of the BMO \$40 million financing, Minto has covenanted under Section 6.6(d) of the PPA (subject to Section 6.6(h)) to repay the amounts owing under the remaining Macquarie financing (the PLF Agreement) in full on or before November 30, 2009.